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GEORGETOWN HARBOR, SOUTH CAROLINA

Report 1

HYDRAULIC, SALINITY, AND SHOALING VERIFICATION

Hydraulic Model Investigation

by

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The Georgetown Harbor model, a fixed-bed model constructed to linear scale ratios of 1:800 horizontally and 1:80 vertically, reproduced a portion of the Atlantic Ocean, Winyah Bay including Mud Bay, North Inlet and marshes between Winyah Bay and North Inlet, the Sampit River including Georgetown Harbor, and the lower portions of the Pee Dee, Black, and Waccamaw Rivers and adjacent marshes. The model was equipped with necessary appurtenances for the accurate

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20. ABSTRACT (Continued).

reproduction and measurement of tides, tidal currents, salinity intrusion, freshwater inflow, and shoaling distribution. The purposes of the model study were (1) to determine the effects on the hydraulic, salinity, and shoaling characteristics of a deepening from 27 to 35 ft of the main navigation channel to Georgetown Harbor and (2) to determine if present maintenance dredging can be reduced by proposed plans involving channel revisions, sediment traps, and freshwater flow diversion. These studies will be reported in later reports.

Model verification tests, presented in this report, were conducted to ensure that the model hydraulic, salinity, and shoaling characteristics were in satisfactory agreement with those of the prototype. The agreements attained between model and prototype were considered satisfactory for the types of tests conducted in the model.

PREFACE

The Georgetown Harbor model investigation was approved by the Office, Chief of Engineers, U. S. Army, on 8 July 1971. Design and construction of the model were accomplished during the period October 1972-July 1973. Hydraulic and salinity adjustment of the model was conducted during the period August 1973-June 1975. Shoaling verification of the model was conducted during the period July 1975-June 1976.

The model design, construction, and verification were carried out in the Hydraulics Laboratory of the U. S. Army Engineer Waterways Experiment Station (WES) under the general supervision of Messrs. H. B. Simmons, Chief of the Hydraulics Laboratory, and F. A. Herrmann, Jr., Assistant Chief of the Hydraulics Laboratory, and under the direct supervision of Mr. F. A. Herrmann, former Chief of the Estuaries Division, Mr. R. A. Sager, present Chief of the Estuaries Division, Mr. W. H. Bobb (retired), former Chief of the Interior Channel Branch, and Mr. R. A. Boland, present Chief of the Interior Channel Branch. LT R. J. Lawing and Messrs. H. A. Benson and M. J. Trawle were Project Engineers and were assisted by Messrs. A. J. Banchetti and D. Marzette. This report was prepared by Mr. Trawle. Subsequent reports will describe various specific studies conducted in the model.

Directors of WES during the design, construction, and verification phases of the study and the preparation and publication of this report were BG E. D. Peixotto, CE; COL G. H. Hilt, CE; and COL John L. Cannon, CE. Technical Director was Mr. F. R. Brown.

CONTENTS

CONVERSION FACTORS, U. S. CUSTOMARY TO METRIC (SI) UNITS OF MEASUREMENT

U. S. customary units of measurement used in this report can be converted to metric (SI) units as follows:

Multiply	By	To Obtain
inches	25.4	millimetres
feet	0.3048	metres
miles (U. S. statute)	1.609344	kilometres
square feet	0.09290304	square metres
square miles (U. S. statute)	2.5899988	square kilometres
feet per second	0.3048	metres per second
cubic feet per second	0.02831685	cubic metres per second

GEORGETOWN HARBOR, SOUTH CAROLINA
HYDRAULIC, SALINITY, AND SHOALING VERIFICATION
Hydraulic Model Investigation

PART I: INTRODUCTION

Objectives

1. Specific model objectives will be described in detail in subsequent reports of one or more complete phases of the overall investigation; however, the most important general problems requiring investigation are (a) the present maintenance dredging requirements in the upper Winyah Bay and Sampit River reaches of the existing Georgetown Harbor Channel and (b) the maintenance dredging requirements for the upper Winyah Bay and Sampit River reaches of the proposed deepened Georgetown Harbor Channel. Of particular interest is the possibility of shifting the location of major shoal areas to other areas where adequate dredged material disposal areas are available and where dredging can be performed at appreciably lower unit cost.

2. This report describes the prototype data obtained for model verification, the physical model used for testing, and the model hydraulic, salinity, and shoaling verification.

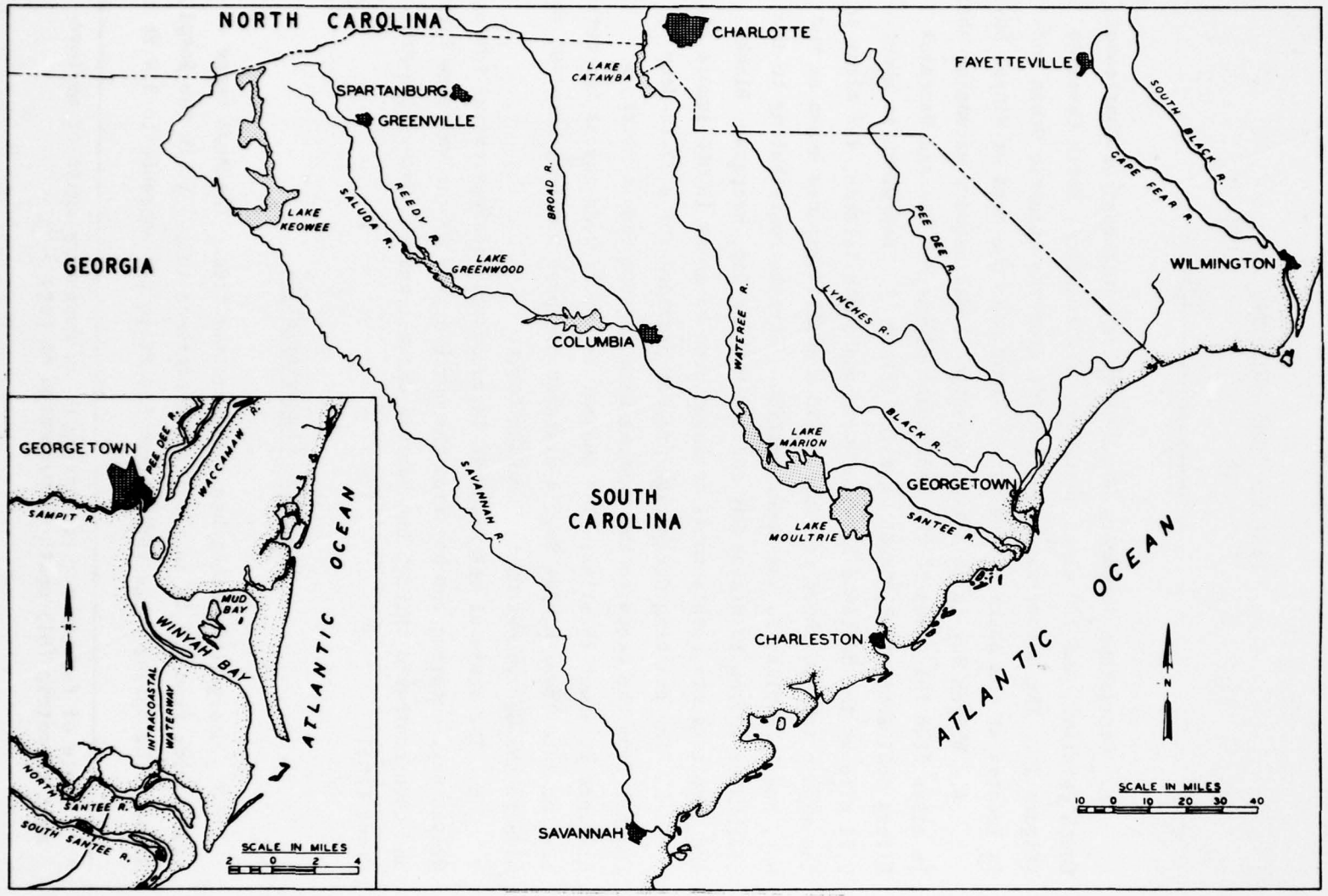

Figure 1. Vicinity map

PART II: THE PROTOTYPE

Description

3. Georgetown Harbor is about 90 miles* northeast of Charleston, South Carolina, and 120 miles southwest of Wilmington, North Carolina (Figure 1). The harbor is about 18 miles from the Atlantic Ocean and is located at the mouth of the Sampit River near the head of Winyah Bay.

4. Winyah Bay is an irregular-shaped tidal estuary extending about 16 miles from the ocean to the confluence of the Pee Dee and Waccamaw Rivers near Georgetown, South Carolina (Plate 1). Bay width is about 0.75 mile at the entrance between North and South Islands, 4.5 miles in the middle section where it widens into a shallow expanse known as Mud Bay, and 1.25 miles in the upper section. Streams contributing to the freshwater inflow to Winyah Bay include the Pee Dee, Waccamaw, Black, and Sampit Rivers with a total drainage area of about 18,000 square miles.

5. The existing navigation project provides for a 27-ft-deep channel from the ocean to the turning basin in the Sampit River, a distance of about 18 miles. The channel is 600 ft wide across the outer bar and into lower Winyah Bay, a distance of about 6 miles, then 400 ft wide to the Georgetown Harbor turning basin.

6. The route of the Atlantic Intracoastal Waterway passes through Winyah Bay, entering the bay from the north by way of the Waccamaw River and then southward through the Western Channel and the Esterville-Minim Creek Canal.

Hydraulic Characteristics

7. Georgetown Harbor has a semidiurnal tide. The mean range of tide varies from 4.6 ft in the jettied entrance to 3.3 ft in the Sampit River. The spring range varies from 5.4 ft in the entrance to 3.9 ft in

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* A table of factors for converting U. S. customary units of measurement to metric (SI) units is presented on page 3.

the Sampit River. During periods of average freshwater inflow, flood flow predominates at the bottom throughout the harbor, while ebb flow predominates at the surface during all flow conditions. Maximum current velocities in the harbor for normal conditions are of the order of 2.0 to 3.0 fps at the surface and somewhat less at the bottom. The total mean freshwater inflow into Winyah Bay is about 13,000 cfs, which enters Winyah Bay at the confluence of the Pee Dee and Waccamaw Rivers. Freshwater inflow from the Sampit River is negligible.

Salinity Characteristics

8. Under most conditions, Winyah Bay is a partially mixed estuary. Seasonal maximum salinities in the bay and tributaries generally occur in the dry period from July through November and vary between about 29.0 to 32.0 ppt at the bottom in the entrance to about 7.0 to 10.0 ppt at the surface in Georgetown Harbor. During the dry season, salt water extends into the mouths of the Pee Dee and Waccamaw Rivers. Seasonal minimum salinities occur in conjunction with heavy spring rains and vary between about 29.0 to 32.0 ppt at the bottom in the entrance to no salinity at the surface in Georgetown Harbor. Along the channel, surface salinities can be as much as 12.0 to 15.0 ppt less than corresponding bottom salinities during periods of maximum freshwater inflow.

Data Surveys

9. In 1972, Charleston District and WES undertook an extensive prototype data collection program in order to obtain data with which to adjust and verify the Georgetown Harbor model. The first data survey occurred on 26 April 1972 during a mean tide with a total freshwater inflow of 12,732 cfs. The second data survey occurred on 13 September 1972 during a neap tide with a total freshwater inflow of 5169 cfs. Thirdly, a long-term survey was conducted from March 1972 through December 1972.

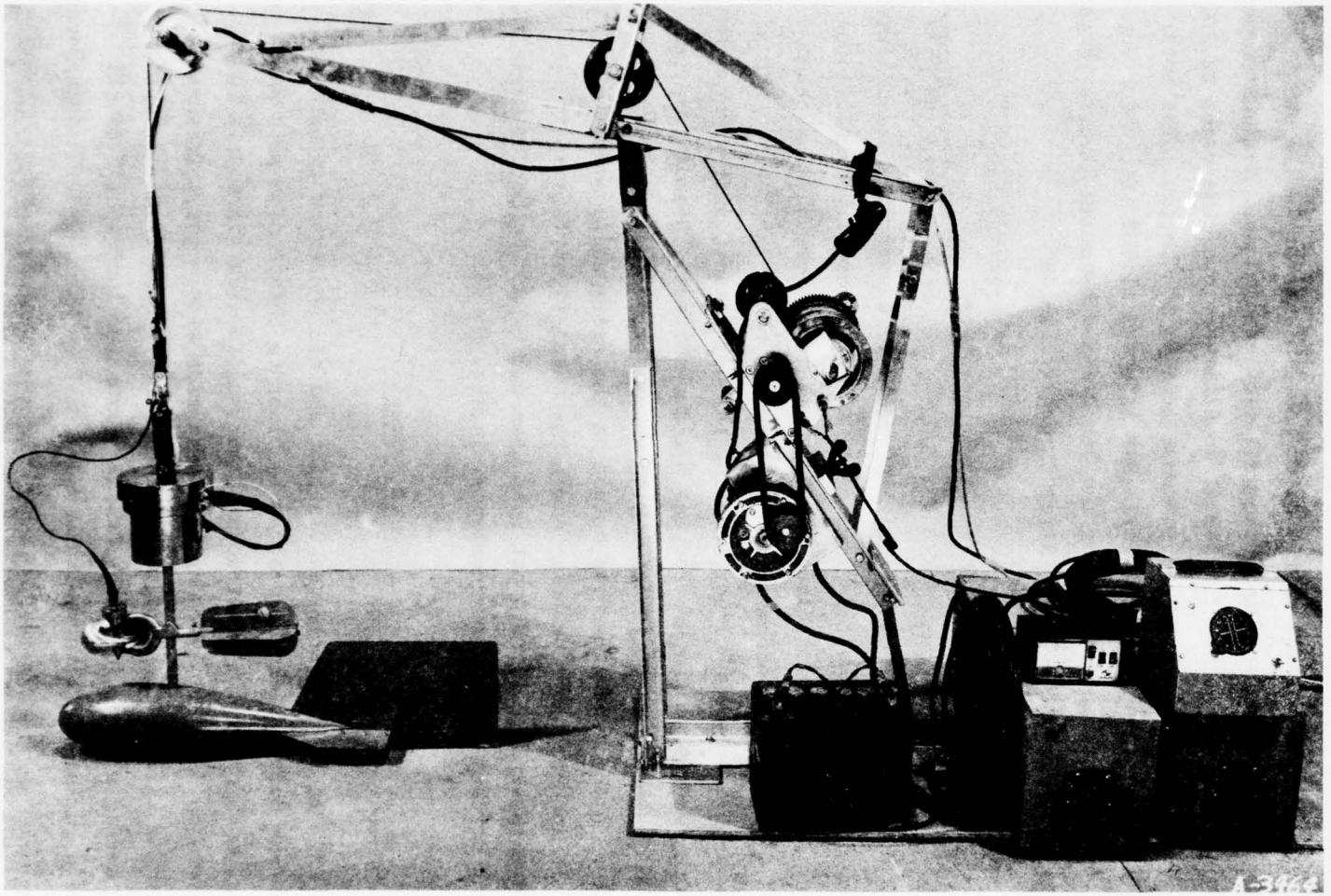


Figure 2. Instrumentation for monitoring tidal currents

Tides

10. Tidal elevations were obtained from permanent tide gages located at 11 stations as shown in Plate 1. Tables 1 and 2 show the instantaneous tidal elevations at 1-hr intervals for 26 April 1972 and 13 September 1972. The accuracy of the elevation is ±0.2 ft.

Currents

11. Currents were measured at 20 stations as shown in Plate 1 on 26 April 1972 and again on 13 September 1972. Measurements of current speed and direction were taken hourly at three depths in the water column for each station. Results of the surveys are given in Tables 3-44. Current measurements were made with a current speed sensor and a direction sensor which, together with a streamlined weight, were suspended by wire cable from a support frame and winch (Figure 2).

12. The current meter used in these surveys was a vertical-axis-cup-type with direct readout. Readout from the indicator was in feet per second with minimum scale graduations of 0.2 fps. The meter exhibited linearity of ±5 percent from 0.2 to 7.0 fps. The threshhold velocity was about 0.2 fps.

13. The direction indicator was a remote reading magnesyn compass designed by WES that indicated the magnetic north azimuth of the direction from which the current was flowing. The readout device had a precision of ±2 deg, but accuracy was dependent upon the balance of the streamlined weight and the strength of current available to turn it. For currents greater than 0.5 fps, the accuracy was ±10 deg. For lower velocities, accuracy was reduced to ±25 deg or worse when waves caused boat motion and when tidal currents slackened and turned.

14. The winch used to raise and lower the submerged unit operated an indicator that showed the depth of the unit below the water surface. This indicator was used to measure the total water depth and to position the current meter at the correct depth for each reading.

Salinities

15. Salinities were measured at 20 stations as shown in Plate 1 for a 13-hr period on 26 April 1972 and again on 13 September 1972.

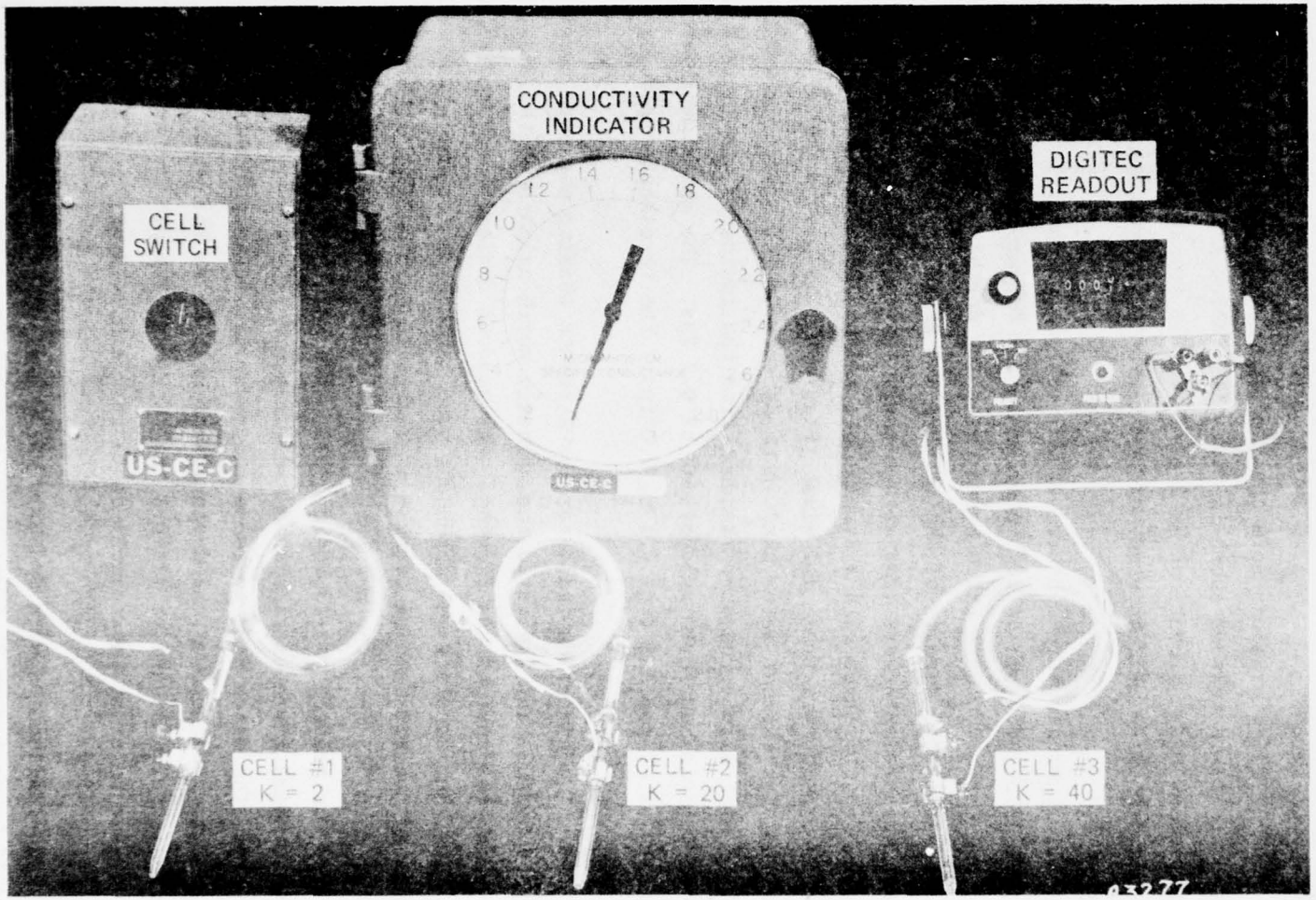


Figure 3. Salinity meter

Salinity samples were collected hourly at three depths in the water column for each station. Results of the surveys are given in Tables 3-44. Samples were pumped on board through plastic tubing attached to the velocity measuring apparatus. After each survey, the samples were transported to WES, where salinity concentrations were determined by the use of conductivity cells especially built and calibrated for this purpose. One cell was used for salinities below 1.5 ppt, a second cell covered the range up to about 20.0 ppt, while the third cell was used for values greater than 20.0 ppt. A salinity meter assembly is shown in Figure 3. The accuracy of the salinity meter was ±2 percent of full scale.

16. Additionally, long-term salinity data were collected weekly at high-water slack at stations A2, B2, C2, E2, F2, G, H, I, and J at the surface, middepth, and bottom from March 1972 through December 1972. In situ salinity measurements were made by means of a Charleston District salinometer. Accuracy of this device is estimated to be ±1.0 ppt. Results of this survey are given in Table 45.

Collection procedure

17. Each current and salinity station was located by existing channel buoys. One boat worked a maximum of three stations, from which measurements were taken at about 1-hr intervals during the 13-hr survey. During measurements the boat was anchored, with engines either idling or stopped.

18. Measurements were taken by anchoring the boat, lowering the current meter assembly and water sample line to the bottom, and recording the water depth. The meter was then raised 2 ft above the bottom, and current speed and direction recorded and water sample collected. The meter was then raised to half the water depth previously measured, and the procedure was repeated. The meter was then raised to within 2 ft of the surface, and the procedure was again repeated. Weather conditions, equipment malfunctions, or other occurrences likely to affect the data were noted in the remarks column of the data sheet.

19. Collection procedure for the long-term salinity data involved only one boat, which followed high-water slack up the estuary. The time necessary to complete one data run averaged about 1-1/2 hr.

PART III: THE MODEL

Description

20. The model was of the fixed-bed type, molded in concrete to conform to 1972 prototype conditions, and was constructed to linear scale ratios, model to prototype, of 1:800 horizontally and 1:80 vertically. Other pertinent scale ratios, which were derived from the linear scale ratios, were velocity, 1:8.94; time, 1:89.44; discharge, 1:572,432; volume, 1:51,200,000; and slope, 10:1. The salinity scale ratio for the study was 1:1. One prototype semidiurnal tidal cycle of 12 hr and 25 min was reproduced in the model in 8.33 min. The model was approximately 240 ft long, 130 ft wide at its widest point, and covered an area of about 16,900 sq ft, reproducing approximately 388 square miles of prototype data. The area reproduced in the model is shown in Plate 1 and included that portion of the South Carolina coast from Debidue Island at a point about 8 miles north of North Inlet to a point on South Island about 5 miles south of the Winyah Bay entrance; the portion of the Atlantic Ocean adjacent to the above-mentioned coastal area and extending seaward about 9 miles; all of Winyah Bay including Mud Bay; North Inlet and marshes between Winyah Bay and North Inlet; the Sampit River to 12 miles above the bay; the Pee Dee River and adjacent marshes to 26 miles above the bay; the Black River and adjacent marshes to 9 miles above the bay; and the Waccamaw River and adjacent marshes to 30 miles above the bay. The topographical features of the model were reproduced to scale to the +10 ft msl contour.

21. During construction of the model, 1/2-in.-wide metal strips were placed in Winyah Bay between the jetties, in the Atlantic Ocean near the entrance to the jetties, along the Georgetown Harbor Channel and the Western Channel, and along the Waccamaw and Pee Dee Rivers to act as roughness in those areas of the model. This was required to allow adjustment of velocity magnitude and distribution, both horizontally and vertically, which could not be accomplished through the use of boundary

Figure 4. General view of model

roughness alone. The boundary roughness used in the shallow marshland areas consisted of a rough stucco finish. A general view at the model looking from the ocean area toward Georgetown Harbor is shown in Figure 4.

Appurtenances

22. The model was equipped with the necessary equipment to satisfactorily reproduce and measure all pertinent phenomena of the prototype. The appurtenances included a tide generator, inflow and outflow measuring devices, ocean saltwater supply system, tide gages, current meters, and salinity and dye sampling and measuring equipment. The rise and fall of the tide in the model and the resulting flood and ebb currents were reproduced by maintaining at all times a precise imbalance between a pumped flow of water to the model and a gravity outflow from the model, as required to reproduce the ocean tide with respect to both time and elevation. A simplified schematic diagram of a typical tide generating system with an explanation of how the system operates is included in Figure 5. The movement of an electronically controlled gate installed in the headbay of the gravity outflow line from the model to the saltwater storage sump was adjusted by trial and error until prototype tidal heights and times at the control station (T-1, Yawkies Dock) were reproduced to scale. The tide control mechanism was equipped with a continuous tide recorder so that the accuracy of model reproduction of any prototype tide could be visually checked at all times.

23. All rivers and streams with significant freshwater inflows were equipped with a constant-head tank and a flowmeter for precise measurement of the respective flows, and the locations of all such freshwater inflow points are shown in Plate 1. The desired salinity of the ocean supply was maintained by the addition of salt to the storage sump as required to compensate for the diluting effect of freshwater inflows introduced into the tributaries.

24. Permanent point gages, graduated to 0.001 ft (0.08 ft prototype), were installed in the model at locations corresponding to prototype recording tide gage locations and were used to obtain measurements

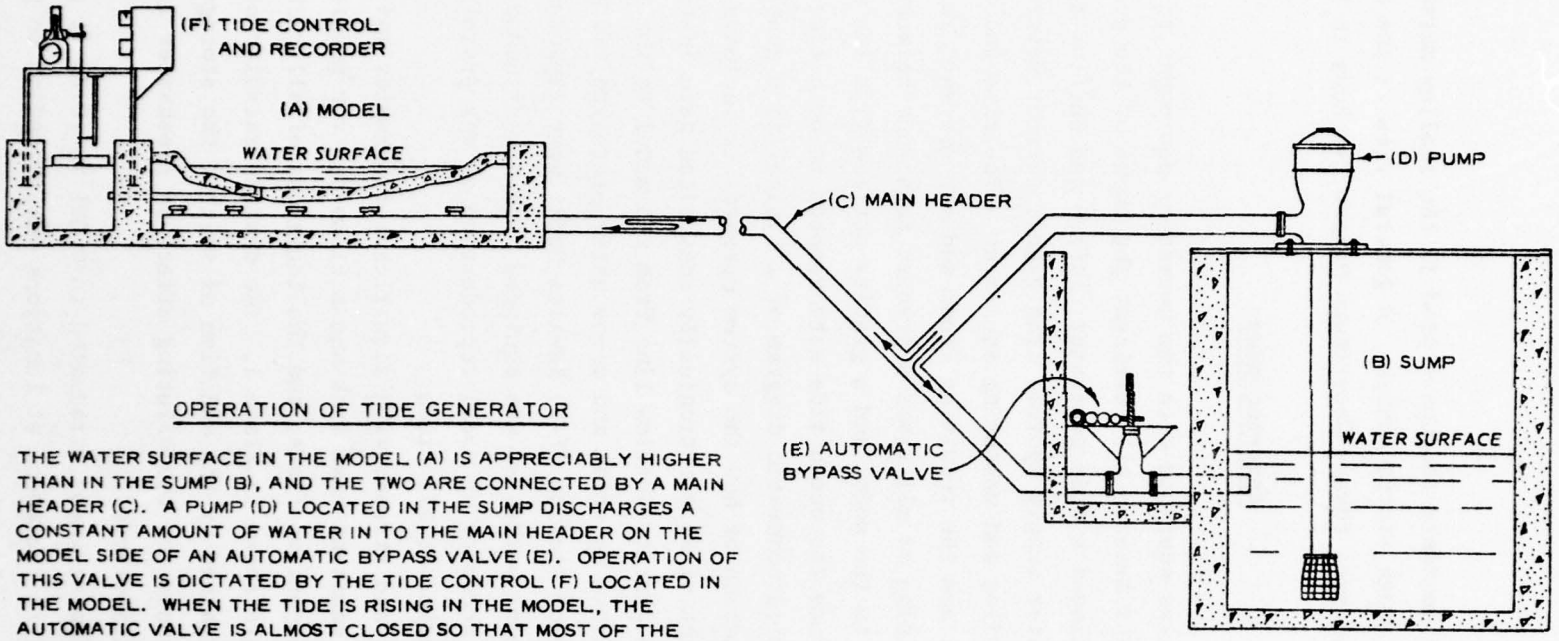


Figure 5. Schematic diagram of a typical tide generating system

of tidal heights throughout the model. These gages could be read accurately to within ±0.0005 ft (0.04 ft prototype).

25. Current velocity measurements were obtained with miniature Price-type meters, one of which is shown in Figure 6. The five meter cups, constructed of a light plastic material, were approximately 0.04 ft in diameter and were mounted on a horizontal wheel about 0.09 ft in diameter; the center of the cups was 0.05 ft from the bottom of the frame. The meters were calibrated frequently to ensure accurate operation and were capable of measuring actual velocities as low as about 0.03 fps (about 0.3 fps prototype).

26. Water samples for determination of salinity concentrations were withdrawn from the model by vacuum pump and collected in 35-cc vials. Salinities were determined by the conductivity cells described in paragraph 15.

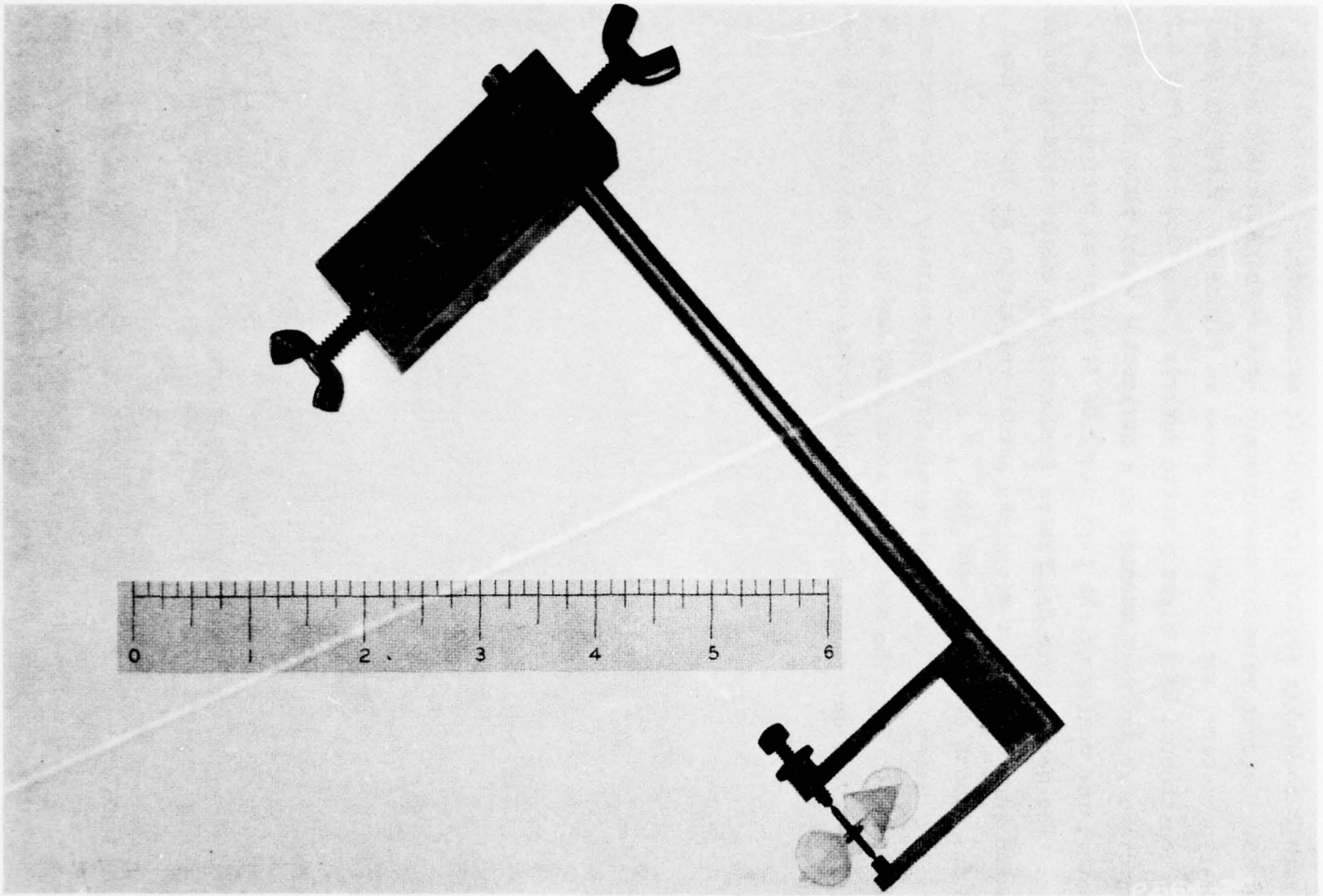


Figure 6. Miniature Price-type current meter

PART IV: VERIFICATION OF THE MODEL

Tests Description

27. Verification of the Georgetown Harbor model was accomplished in three phases: (a) hydraulic verification, which ensured that tidal elevations and times and current velocities and directions were in proper agreement with the prototype; (b) salinity verification, which ensured that salinity phenomena in the model corresponded to those of the prototype for similar conditions of tide, ocean salinity, and freshwater inflow; and (c) fixed-bed shoaling verification, which ensured acceptable reproduction of prototype shoaling distribution.

28. The accurate reproduction of hydraulic, salinity, and shoaling phenomena in an estuary model is an important phase in the preparation of the model for its ultimate use in evaluating the effects of proposed improvement works. Every effort was made to obtain a comprehensive verification of all pertinent phenomena. This report contains all important data related to the hydraulic, salinity, and shoaling verification of the model, in order to facilitate reference to these data in other phases of the overall investigation.

Hydraulic Verification

Tidal adjustment

29. The objective of the model tidal adjustment was to obtain an accurate reproduction of prototype tidal elevations and tidal phases throughout the model. Prototype tidal data from 11 recording tide gages (Plate 1) were available to verify the accuracy of the model tidal adjustment. These gages recorded essentially continuously throughout the prototype data collection surveys of 26 April 1972 and 13 September 1972 discussed previously.

30. The procedure followed was to adjust the tide generator in such a manner that the tides generated in the model ocean would cause an

accurate reproduction of prototype tides at Yawkies Dock (control) tide gage, then to adjust the model roughness and marshland elevations until prototype tidal elevations and times were reproduced to scale throughout the model.

31. Comparisons of model and prototype tidal data for the two tides and freshwater inflows reproduced in the model are presented in Plates 2-9. Plates 2-4 show tidal elevations for the 26 April 1972 tide condition at the Yawkies Dock, Skinners Dock, Sampit River, Old Highway 17 Bridge, Sandy Island, Hasty Point, Wacca Wache, Topsaw Landing, and Bucksport tide gages. Low- and high-water levels and range of tide profiles are presented in Plate 5 for the 26 April 1972 tide condition. The maximum discrepancy in tidal range was in the order of 0.4 ft prototype (0.005 ft model). This maximum discrepancy occurred at the gage located at Bucksport. The Bucksport and Topsaw Landing gages were located very near the upstream model limits (Plate 1) and the freshwater discharge point for the Waccamaw and Pee Dee Rivers, respectively. Although tidal effects extend a considerable distance upstream from these gage locations in the prototype, there were no supplemental provisions for the passage of tidal flows at the upstream model limits. Since the tidal flows in these areas are quite small and since these areas are a considerable distance upstream from any potential problem areas that might have been subject to model investigations, it was considered that provisions for such tidal flows would have involved an unnecessary expense. The discrepancy between model and prototype tidal data at the Bucksport gage is a direct result of the close proximity of this gage to the upstream model limit.

32. Plates 6-8 show tidal elevations for the 13 September 1972 tide condition at the Yawkies Dock, Skinners Dock, Sampit River, Old Highway 17 Bridge, Sandy Island, Hasty Point, Wacca Wache, Bucksport, and Jones Creek tide gages. Low- and high-water levels and range of tide profiles are presented in Plate 9 for the 13 September 1972 tide condition. The maximum discrepancy in tidal range was in the order of 0.9 ft prototype (0.011 ft model). This maximum discrepancy again occurred at the Bucksport gage.

Tidal current adjustment

33. The objective of the model current adjustment was to obtain an accurate reproduction of prototype current velocities and distributions throughout the model. Prototype current velocity data were available at 20 stations, the locations of which are shown in Plate 1. Prototype readings were made at the surface, middepth, and bottom for a period of at least 13 hr at each station.

34. The procedure followed for adjustment of current velocities was to reproduce each of the two tidal and discharge conditions in turn and adjust the model roughness until the current velocities at each station were correctly reproduced in the model. The freshwater discharges used during model verification were obtained by averaging the daily inflows that occurred one week prior to the surveys. Comparisons of model and prototype current velocities for all stations are presented in Plates 10-29 for the 26 April conditions and Plates 30-49 for the 13 September conditions. Measurements obtained at hourly intervals were plotted for both model and prototype, and smooth curves were drawn through the points. In addition to actual velocity comparisons, flow predominance comparisons between model and prototype along the channel center line for 26 April 1972 and 13 September 1972 are presented in Plates 50 and 51, respectively. The flow predominance method of presenting current velocity reduces magnitude, direction, and duration of the currents to a single expression that defines what percentage of total flow at any given point is toward the ocean (ebb) and what percentage is away from the ocean (flood). This expression is derived from the conventional plots of velocity versus time over a tidal cycle at any given point. The areas subtended by both ebb and flood portions of the curve are measured and summarized. The area subtended by the ebb portion of the curve is then divided by the total area to determine what percentage of the flow is in the ebb direction.

35. No attempt will be made to discuss each comparison of prototype and model measurements, but the agreement obtained throughout the model is considered to be very satisfactory.

Salinity Verification

36. Verification of salinities in the Georgetown Harbor model was accomplished by a two-phase approach. First, surface, middepth, and bottom measurements throughout the model at the locations shown in Plate 1 were used to verify the fact that overall the horizontal and vertical salinity distribution in model and prototype were similar over a tidal cycle for the 26 April 1972 and the 13 September 1972 conditions. Secondly, surface, middepth, and bottom weekly high-water salinity measurements at stations A2, B2, C2, E2, F2, G, H, I, and J from June 1972 through December 1972 were used to demonstrate that long-term salinity changes due to variations in upland flow could be reproduced in the model.

Phase 1

37. Comparison of model and prototype salinities for all stations for the 26 April 1972 and 13 September 1972 conditions are presented in Plates 52-71 and Plates 72-91, respectively. Measurements obtained at hourly intervals were plotted for model and prototype, and smooth curves were drawn through the points. No attempt will be made to discuss each comparison of prototype and model measurements, but the agreement obtained throughout the model is considered to be very satisfactory. Comparisons of the vertical mixing at the 20 salinity stations located throughout the model (Plate 1) for the 26 April 1972 and 13 September 1972 conditions are shown by the bar graphs in Plates 92 and 93, respectively. The surface salinity values were divided by the corresponding bottom values at the time of local high-water slack to determine what percent of the bottom value was found at the surface. The average difference in stratification between model and prototype for both flow conditions was less than 8 percent. Such comparisons indicate that a proper mixing environment was achieved throughout the model.

Phase 2

38. The long-term salinity verification was conducted using a repetitive mean tide with a range of 4.0 ft and regulating the upland

flows at the three freshwater inflow points to conform to the June 1972 through December 1972 hydrographs. The source salinity was maintained at 32.5 ppt. At the time of high water, every fifth tidal cycle, surface, middepth, and bottom samples were obtained and the salinities determined. Curves were drawn through the values and are shown in Plates 94-96 along with all available prototype data and an inverted hydrograph of the total upland flow. The data show that the model salinities were generally quite a bit higher than corresponding prototype observations, except at the two stations closest to the ocean. There are two possible explanations for this discrepancy. First, it is possible that the prototype freshwater inflow data were in error, especially during the low-flow period when unmeasured contributions can be a significant portion of the total flow. Second, it appeared that the navigation channel may have been as much as 10 ft shallower during the salinity survey period than the channel molded in the model. Informal tests with a reduced channel depth greatly improved the model-to-prototype salinity correspondence for a low-flow quasi-steady-state condition. Because the model salinity front advanced and retreated in response to seasonal changes in freshwater inflow in approximately the same manner as that in the prototype, and because no model tests were to be conducted under varying inflow conditions, no further effort was made to improve the long-term salinity verification.

Shoaling Verification

39. The objective of the model shoaling verification was to obtain an accurate reproduction of the prototype shoaling pattern and distribution both in the bay channel and the harbor. Prototype hydrographic surveys of the bay channel and harbor for the years 1972, 1973, 1974, and 1975 were used to determine the prototype shoaling pattern and distribution in the problem areas. The volume of material within each designated section of the navigation channel and harbor (Plate 97) was computed from both the pre-dredge and post-dredge surveys for these years. The amount

of shoaling in each section from one year's post-dredge survey to the following year's pre-dredge survey was computed, and an average for the four years was determined. These average values were converted to a percentage in each section of the total average shoaling.

40. Shoaling verification tests were conducted to demonstrate the ability of the model to reproduce known prototype shoaling characteristics. This was accomplished by first operating the model to salinity stability, then introducing a shoaling material into the model, continuing to operate the model for a sufficient time to allow currents to transport and deposit the material, and subsequently retrieving and measuring the material from the designated sections in the bay channel and harbor. A percentile comparison of corresponding model and prototype quantitites was then made to determine if material distribution in the model agreed satisfactorily with the prototype. By trial and error, a model operating procedure was developed which produced a satisfactory reproduction of prototype shoaling distribution.

41. Gilsonite, an asphaltic material with a specific gravity of about 1.035 and graded in size to pass a 35-mesh screen and be retained on a 60-mesh screen, was the material used in the model to simulate prototype shoaling distribution. A gilsonite slurry of 5 percent gilsonite and 95 percent water by volume was distributed to the model through a perforated injection pipe suspended about 12 in. above the center line of the navigation channel (Plate 98). The purpose of the model tests was to simulate prototype shoaling distribution in the three major shoal areas for the existing 27-ft channel conditions (Plate 97)--Georgetown Harbor proper (Sections 28-44), upper bay channel (Sections 19-27), and Eastern Channel (Sections 8-18). After numerous trial tests, the following procedures were adopted and followed thereafter. The model was operated to salinity stability at a constant freshwater inflow of 5000 cfs and a tidal range of 5.28 ft at Yawkies Dock (T-1), then 14,000 cc of gilsonite were injected into the model during the flood phase of the tidal cycle. Six consecutive tidal cycles were required to complete the injection procedure. After injection of the gilsonite was completed,

flows at the three freshwater inflow points to conform to the June 1972 through December 1972 hydrographs. The source salinity was maintained at 32.5 ppt. At the time of high water, every fifth tidal cycle, surface, middepth, and bottom samples were obtained and the salinities determined. Curves were drawn through the values and are shown in Plates 94-96 along with all available prototype data and an inverted hydrograph of the total upland flow. The data show that the model salinities were generally quite a bit higher than corresponding prototype observations, except at the two stations closest to the ocean. There are two possible explanations for this discrepancy. First, it is possible that the prototype freshwater inflow data were in error, especially during the low-flow period when unmeasured contributions can be a significant portion of the total flow. Second, it appeared that the navigation channel may have been as much as 10 ft shallower during the salinity survey period than the channel molded in the model. Informal tests with a reduced channel depth greatly improved the model-to-prototype salinity correspondence for a low-flow quasi-steady-state condition. Because the model salinity front advanced and retreated in response to seasonal changes in freshwater inflow in approximately the same manner as that in the prototype, and because no model tests were to be conducted under varying inflow conditions, no further effort was made to improve the long-term salinity verification.

Shoaling Verification

39. The objective of the model shoaling verification was to obtain an accurate reproduction of the prototype shoaling pattern and distribution both in the bay channel and the harbor. Prototype hydrographic surveys of the bay channel and harbor for the years 1972, 1973, 1974, and 1975 were used to determine the prototype shoaling pattern and distribution in the problem areas. The volume of material within each designated section of the navigation channel and harbor (Plate 97) was computed from both the pre-dredge and post-dredge surveys for these years. The amount

the freshwater inflow to the model was increased to 25,000 cfs. The model operation was continued for 20 tidal cycles to permit movement and deposition of the material by tidal current action. Model operation was then stopped, and the gilsonite deposited in the designated model sections was retrieved and measured. The percentile distribution of shoal material in the three major shoal areas was computed for both model and prototype.

42. Of the three major shoal areas, the prototype data indicated that about 59 percent of the total shoaling occurred in the harbor area and only about 41 percent in the upper bay and Eastern Channel areas combined. Assuming that the Sampit River was not a significant source of shoaling material because of the lack of freshwater flow, the material which shoaled in the harbor entered from the upper bay either as suspended load, bedload, or both. However, model tests in which gilsonite was introduced only along the bay navigation channel did not result in adequate amounts of gilsonite deposited in the harbor, since current velocities in the harbor were so low that the gilsonite would not readily move from the upper bay reach into the harbor. As a result, the distribution of gilsonite was only 25-30 percent in the harbor and 70-75 percent in the bay channel. One important reason for the above is that much of the sediment deposited in the harbor in the prototype probably enters in suspension, is flocculated by the relatively high salinity in the harbor, and deposits as a result of flocculation processes. The gilsonite used in the model to represent the natural sediments acts much as the already flocculated prototype sediments, and thus less of this material moves from the bay into the harbor and deposits therein than for the prototype sediments. It was therefore decided to treat harbor and bay shoaling verification separately; i.e., the distribution of material within the harbor as the harbor verification and the distribution of material within the upper bay and Eastern Channel as the bay verification. To provide sufficient material for distribution within the harbor, the gilsonite injection line was extended into the harbor as shown in Plate 98. The resulting distribution of material in the harbor shoal and the bay shoals is presented in Table 46. The accuracy with which the model

duplicated the prototype shoaling distribution both in the bay and the harbor was considered to be sufficient to insure a valid indication of the effects of the improvement plans on shoaling characteristics in the problem areas.

Limitations of the Accuracy of Model Measurements

43. Measurements of tidal elevations in the model were made with point gages graduated to 0.001 ft (0.08 ft prototype). The limitations of the current velocity meters used in the model should be considered in making close comparisons between model and prototype velocity data. The center line of the meter cup was about 0.05 ft above the bottom of the frame; therefore, bottom velocity measurements in the model were actually obtained at a point 4.0 ft (prototype) above the bottom, instead of about 2.0 ft as in the prototype metering program. The model velocities were determined by counting the number of revolutions in a 10-sec interval (which represented a period of about 15 min in the prototype), as compared with about a 1-min observation in the prototype. The horizontal spread of the entire meter cup wheel was about 0.11 ft in the model, representing about 88 ft in the prototype, as compared with less than 1.0 ft for the prototype meter. Thus, the distortion of area (model to prototype) results in comparison of prototype point velocities with model mean velocities for a much larger area. The same is true for the vertical area, since the height of the meter cup was about 0.04 ft (3.2 ft prototype), as compared with only a few inches for the prototype meter.

44. All model salinity measurements presented in this report were made with a salinity meter (conductivity type) previously described and are considered to be accurate within 0.5 ppt in the higher ranges and 0.2 ppt in the lower ranges. The model samples were collected at the bottom, middepth, and surface elevations. The elevations of the bottom and middepth samplers were fixed in the model and were not allowed to vary with the tide. The surface samplers were set to be 1 ft below the surface at low water and were therefore 4 to 5 ft below the surface at high water.

Simultaneous water samples were drawn into vials from the three elevations by means of a vacuum system. Similar to the model velocity data, the model salinity data also represent an average over a much larger prototype area, since the vacuum sampling system used in the model drew the sample from a radius of about 1/2 to 1 in. (33 to 66 ft prototype). The accuracy with which the model could be expected to duplicate salinites from cycle to cycle for identical conditions appears to be about 5 percent.

Discussion of Results of Verification Tests

45. Agreement between model and prototype phenomena, as evidenced by the results of hydraulic, salinity, and shoaling verification data, appears to be excellent with the possible exception of the long-term salinity verification. The model was considered to be sufficiently similar to its prototype to be confidently utilized in studies of the effects of proposed improvement plans on hydraulic phenomena, salinity intrusion, and shoaling distribution in either the bay or the harbor.

Table 1

PROTOTYPE TIDAL ELEVATIONS
(FT ABOVE MSL)
26 APRIL 1972

TIME EDT	YAWKIES DUCK	SKINNERS DUCK	SAMPIT RIVER	OLD HWY 17 BRIDGE	SANDY ISLAND	HASTY POINT	WACCA WACHE	TOPSAW LANDING	BUCKSPORT
0000	0.2	0.6	1.2	0.9	2.3	2.7	2.6	3.4	2.7
0100	0.0	0.1	0.5	0.4	1.7	2.3	2.1	3.4	2.4
0200	0.1	-0.1	-0.2	0.0	1.0	1.8	1.6	3.3	2.1
0300	0.7	0.3	-0.3	-0.1	0.5	1.4	1.1	3.1	1.7
0400	1.7	1.2	0.1	0.6	0.2	1.0	0.8	2.9	1.3
0500	2.3	2.0	1.1	1.7	0.6	0.9	0.8	2.6	1.0
0600	2.8	2.6	1.9	2.5	1.8	1.8	1.7	2.4	1.4
0700	2.9	2.9	2.5	2.9	2.4	2.5	2.4	2.5	2.1
0800	2.5	2.8	2.8	2.9	2.7	2.7	2.8	2.8	2.5
0900	1.8	2.2	2.7	2.5	2.9	2.9	3.0	3.2	2.7
1000	1.0	1.5	2.2	1.9	2.9	2.9	3.0	3.3	2.8
1100	0.1	0.8	1.5	1.1	2.6	2.8	2.8	3.3	2.8
1200	-0.3	0.2	0.8	0.5	2.1	2.5	2.5	3.3	2.5
1300	-0.4	-0.3	0.0	-0.1	1.4	2.0	1.7	3.2	2.2
1400	-0.1	-0.4	-0.5	-0.4	0.8	1.4	1.2	3.1	1.8
1500	0.6	0.2	-0.7	-0.3	0.2	0.9	0.6	2.8	1.3
1600	1.6	1.3	0.1	0.8	-0.1	0.6	0.3	2.5	0.8
1700	2.5	2.1	1.1	1.9	0.4	0.8	0.6	2.3	0.6
1800	3.1	2.8	2.0	2.6	1.8	1.8	1.8	2.1	1.5
1900	3.4	3.3	2.7	3.2	2.5	2.5	2.5	2.5	2.2
2000	3.2	3.4	3.1	3.4	2.9	2.8	2.9	2.9	2.5
2100	2.4	3.2	3.3	3.3	3.1	3.1	3.1	3.2	2.7
2200	1.4	2.3	2.9	2.7	3.3	3.2	3.2	3.3	2.9
2300	0.6	1.7	2.1	1.9	3.1	3.2	3.2	3.4	3.0
2400	-0.1	1.0	1.6	1.2	2.7	2.9	2.9	3.5	3.0

Table 2

PROTOTYPE TIDAL ELEVATIONS
(FT ABOVE MSL)
15 SEPTEMBER 1972

TIME EDT	YAWKIES DUCK	SKINNERS DUCK	SAMPIT RIVER	OLD HWY 17 BRIDGE	SANDY ISLAND	HASTY POINT	WACCA WACHE	BUCKSPORT	JONES CREEK
0000	1.9	2.1	2.2	2.2	2.3	ND	2.2	1.9	2.1
0100	1.5	2.1	2.0	2.0	2.4	ND	2.3	2.1	1.8
0200	0.9	1.8	1.5	1.6	2.5	ND	2.4	2.3	1.1
0300	0.3	1.3	0.9	1.0	1.8	ND	2.1	2.3	0.2
0400	-0.4	0.7	0.2	0.3	1.1	ND	1.5	1.9	-0.4
0500	-0.8	0.2	-0.3	-0.3	0.6	ND	1.0	1.4	-1.0
0600	-0.8	-0.4	-0.7	-0.8	0.0	ND	0.5	0.9	-1.0
0700	-0.4	-0.8	-0.9	-1.0	-0.4	-0.1	-0.1	0.5	-0.5
0800	0.4	-0.6	-0.5	-0.4	-0.6	-0.4	-0.3	0.0	0.3
0900	1.1	0.2	0.5	0.5	-0.2	-0.3	-0.3	-0.3	1.1
1000	1.7	1.0	1.4	1.3	0.9	0.6	0.5	-0.3	1.6
1100	2.1	1.7	2.0	2.0	1.6	1.3	1.3	0.7	2.1
1200	2.3	2.3	2.3	2.3	2.0	1.9	1.9	1.4	2.5
1300	2.1	2.5	2.5	2.5	2.4	2.3	2.3	1.8	2.4
1400	1.4	2.3	2.3	2.2	2.6	2.5	2.5	2.2	1.9
1500	0.7	1.8	1.6	1.6	2.6	2.6	2.6	2.4	1.1
1600	0.1	1.3	1.0	1.0	2.1	2.2	2.2	2.4	0.0
1700	-0.4	0.7	0.3	0.3	1.4	1.6	1.6	2.0	-0.7
1800	-0.7	0.2	-0.3	-0.3	0.8	1.1	1.0	1.5	-0.9
1900	-0.6	-0.4	-0.7	-0.7	0.3	0.6	0.5	1.0	-0.5
2000	-0.1	-0.6	-0.7	-0.7	-0.2	0.1	0.0	0.6	0.1
2100	0.4	-0.4	-0.1	0.0	-0.4	-0.2	-0.3	0.1	0.6
2200	0.9	0.2	0.8	0.7	0.0	-0.2	0.0	-0.2	1.1
2300	1.3	0.9	1.3	1.3	0.9	0.7	0.8	0.5	1.4
2400	1.5	1.3	1.6	1.6	1.5	1.2	1.4	1.0	1.6

Table 3

PROTOTYPE VELOCITIES AND SALINITIES AT STATION A1

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0715	1	32	1.8	120	27.9	LARGE SWELLS
42672	0715	14	32	2.0	135	30.4	
42672	0715	29	32	1.8	132	30.6	
42672	1200	1	23	2.8	340	17.9	GOOD WEATHER
42672	1200	10	23	2.0	318	18.8	
42672	1200	20	23	1.7	310	18.9	
42672	1300	1	22	3.2	350	13.0	GOOD WEATHER
42672	1300	10	22	2.0	320	15.1	
42672	1300	20	22	1.2	288	16.2	
42672	1400	1	21	1.6	360	12.2	
42672	1400	9	21	1.0	330	13.0	
42672	1400	18	21	0.4	270	14.2	
42672	1500	1	20	0.4	130	11.3	GOOD WEATHER
42672	1500	9	20	1.0	140	12.7	
42672	1500	18	20	0.8	074	15.8	
42672	1600	1	32	3.8	154	18.8	
42672	1600	15	32	3.2	145	23.2	
42672	1600	30	32	1.8	136	23.8	
42672	1700	1	32	5.0	146	27.8	CHECKED DEPTH WITH
42672	1700	15	32	3.8	144	28.8	FATHOMETER-OK
42672	1700	30	32	2.8	140	28.8	GOOD WEATHER
42672	1800	1	32	4.6	134	26.5	
42672	1800	15	32	3.0	148	30.0	
42672	1800	30	32	2.2	150	30.2	
42672	1900	1	34	2.6	164	28.1	GOOD WEATHER
42672	1900	16	34	2.4	140	30.5	
42672	1900	32	34	1.8	150	30.6	
42672	2000	1	33	1.2	160	28.9	
42672	2000	16	33	0.4	136	30.7	
42672	2000	31	33	0.6	152	30.7	
42672	2230	1	27	4.6	340	27.7	
42672	2230	13	27	3.6	340	29.2	
42672	2230	24	27	2.3	328	29.6	
42672	2300	1	28	5.4	340	23.1	
42672	2300	13	28	3.0	320	26.7	
42672	2300	26	28	2.8	310	26.9	
42672	2400	1	28	6.4	330	21.6	
42672	2400	14	28	4.4	330	22.7	
42672	2400	26	28	2.4	320	22.7	

Table 4

PROTOTYPE VELOCITIES AND SALINITIES AT STATION A2

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0725	1	15	1.0	160	28.3	LARGE SWELLS
42672	0725	8	15	2.4	160	30.0	
42672	0725	12	15	1.8	150	30.7	
42672	1210	0	30	4.2	340	16.2	GOOD WEATHER
42672	1210	15	30	2.2	300	18.5	
42672	1210	28	30	1.2	280	26.2	
42672	1310	1	29	2.4	340	14.2	GOOD WEATHER
42672	1310	14	29	1.6	310	15.5	
42672	1310	28	29	1.0	280	23.1	
42672	1410	1	28	1.6	340	11.6	
42672	1410	13	28	0.6	290	13.7	
42672	1410	26	28	0.3	210	17.0	
42672	1510	1	28	0.5	120	12.2	GOOD WEATHER
42672	1510	13	28	2.2	140	15.8	
42672	1510	26	28	0.9	160	18.9	
42672	1610	1	29	4.4	154	17.4	
42672	1610	13	29	4.0	135	19.9	
42672	1610	26	29	2.5	146	25.8	
42672	1710	1	29	4.8	140	29.4	CHECKED DEPTH WITH
42672	1710	14	29	4.0	145	30.0	FATHOMETER-OK
42672	1710	27	29	3.2	152	30.1	GOOD WEATHER
42672	1810	1	27	4.4	140	28.2	
42672	1810	13	27	3.2	152	30.3	
42672	1810	25	27	2.8	150	30.5	
42672	1910	1	29	2.2	165	28.9	GOOD WEATHER
42672	1910	14	29	0.6	140	30.7	
42672	1910	27	29	0.6	150	30.7	
42672	2010	1	29	0.0	165	29.1	
42672	2010	14	29	0.0	135	30.8	
42672	2010	27	29	0.0	130	31.0	
42672	2235	1	29	5.0	340	25.7	
42672	2235	14	29	3.6	324	29.3	
42672	2235	22	29	2.4	320	29.8	
42672	2310	1	30	5.8	340	21.9	
42672	2310	14	30	3.4	320	26.3	
42672	2310	28	30	2.2	324	27.4	
42772	0010	1	29	5.2	342	21.6	
42772	0010	14	29	3.6	330	23.1	
42772	0010	27	29	2.8	310	23.8	

Table 5

PROTOTYPE VELOCITIES AND SALINITIES AT STATION A3

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	1220	1	33	4.8	330	12.3	GOOD WEATHER
42672	1220	16	33	4.6	330	16.5	
42672	1220	30	33	1.8	200	23.1	
42672	1320	1	32	4.2	320	11.4	GOOD WEATHER
42672	1320	15	32	3.2	330	13.8	
42672	1320	30	32	1.2	298	18.1	
42672	1420	1	32	1.8	338	10.9	
42672	1420	15	32	0.8	280	14.5	
42672	1420	30	32	0.6	260	17.9	
42672	1520	1	36	2.8	148	13.7	GOOD WEATHER
42672	1520	17	36	2.6	132	17.9	
42672	1520	34	36	2.0	155	21.1	
42672	1620	1	36	4.4	130	22.3	
42672	1620	17	36	3.8	136	28.1	
42672	1620	30	36	3.0	150	29.2	
42672	1720	1	35	4.8	132	29.0	CHECKED DEPTH WITH
42672	1720	16	35	3.8	140	30.3	FATHOMETER-OK
42672	1720	33	35	3.6	140	30.4	GOOD WEATHER
42672	1820	1	38	4.2	138	29.3	
42672	1820	18	38	3.2	145	30.4	
42672	1820	36	38	2.6	140	30.5	
42672	1920	1	35	2.8	148	29.5	
42672	1920	19	39	1.8	135	30.8	
42672	1920	37	39	1.6	135	30.8	GOOD WEATHER
42672	2240	1	32	5.4	330	28.8	
42672	2240	15	32	4.8	320	29.4	
42672	2200	30	32	4.0	320	29.5	
42672	2320	1	29	7.6	336	16.9	
42672	2320	14	29	5.8	320	22.8	
42672	2320	27	29	4.6	310	26.6	
42772	0020	1	31	7.6	338	17.6	
42772	0020	15	31	5.8	324	23.1	
42772	0020	30	31	3.8	320	24.8	

Table 6

PROTOTYPE VELOCITIES AND SALINITIES AT STATION B1

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0730	1	31	1.5	050	21.9	ROUGH
42672	0730	15	31	1.5	150	30.0	
42672	0730	30	31	1.2	150	30.1	
42672	0800	2	30	1.0	010	26.1	
42672	0800	15	30	0.8	150	29.3	
42672	0800	29	30	1.2	120	30.4	
42672	0900	1	30	2.4	340	17.6	ROUGH
42672	0900	15	36	0.8	340	30.2	
42672	0900	29	30	0.6	340	30.3	
42672	1000	1	30	3.5	330	16.1	CHOPPY
42672	1000	15	30	3.3	330	29.5	
42672	1000	29	30	0.8	330	28.9	
42672	1100	1	29	4.7	330	11.2	CHOPPY
42672	1100	15	29	3.5	330	20.2	
42672	1100	28	29	3.3	330	27.5	
42672	1200	1	29	4.7	330	8.7	CHOPPY
42672	1200	15	29	3.6	330	25.0	
42672	1200	28	29	1.0	340	25.1	
42672	1300	1	29	3.7	320	7.5	CHOPPY
42672	1300	14	29	2.2	320	19.2	
42672	1300	28	29	0.8	320	21.2	
42672	1400	1	29	2.7	310	6.0	SMOOTH
42672	1400	14	29	1.3	340	13.3	
42672	1400	28	29	0.4	300	19.5	
42672	1500	1	28	0.5	350	6.1	SMOOTH
42672	1500	14	28	0.8	130	12.6	
42672	1500	27	28	0.2	130	18.7	
42672	1600	1	32	3.4	160	9.8	CHOPPY
42672	1600	16	32	2.9	150	12.8	
42672	1600	31	32	1.3	150	17.6	
42672	1700	1	34	3.5	150	12.3	CHOPPY
42672	1700	17	34	3.5	140	13.8	
42672	1700	33	34	2.6	140	18.3	
42672	1800	1	37	3.7	140	15.6	CHOPPY
42672	1800	18	37	3.7	140	20.0	
42672	1800	36	37	2.0	140	28.5	
42672	1900	1	36	3.0	160	11.3	CALM
42672	1900	18	36	2.5	140	28.1	
42672	1900	35	36	1.2	130	30.0	
42672	2000	1	35	1.5	170	12.8	CALM
42672	2000	17	35	1.5	130	30.1	
42672	2000	34	35	0.5	130	30.3	
42672	2100	1	33	1.3	310	10.7	CALM
42672	2100	16	33	0.5	330	30.0	
42672	2100	34	33	0.2	330	30.2	

Table 7

PROTOTYPE VELOCITIES AND SALINITIES AT STATION 62

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0740	1	34	1.2	090	29.6	ROUGH
42672	0740	17	34	1.8	150	29.9	
42672	0740	33	34	1.4	150	30.0	
42672	0810	1	33	1.6	340	29.7	
42672	0810	16	33	1.0	150	29.7	
42672	0810	31	33	1.0	170	30.3	
42672	0910	1	31	2.8	330	17.2	ROUGH
42672	0910	16	31	1.2	340	29.8	
42672	0910	30	31	0.7	340	30.4	
42672	1010	1	31	3.5	330	16.1	CHOPPY
42672	1010	16	31	2.8	330	25.4	
42672	1010	30	31	1.0	330	29.3	
42672	1110	1	31	4.8	320	10.9	CHOPPY
42672	1110	15	31	3.8	320	16.3	
42672	1110	30	31	0.8	300	26.9	
42672	1210	1	31	4.3	320	9.3	CHOPPY
42672	1210	15	31	3.7	320	13.4	
42672	1210	30	31	1.5	310	23.3	
42672	1310	1	30	3.6	320	8.7	CHOPPY
42672	1310	15	30	2.9	320	20.6	
42672	1310	29	30	0.9	310	21.4	
42672	1410	1	30	2.5	310	6.3	SMOOTH
42672	1410	15	30	1.1	330	14.2	
42672	1410	29	30	0.2	300	18.2	
42672	1510	1	31	0.5	140	6.0	SMOOTH
42672	1510	15	31	1.8	160	11.7	
42672	1510	30	31	0.7	130	12.4	
42672	1610	1	32	3.5	160	9.8	
42672	1610	16	32	3.5	160	12.1	
42672	1610	31	32	1.8	160	17.2	
42672	1710	1	35	3.5	140	12.1	CHOPPY
42672	1710	17	35	3.7	140	19.1	
42672	1710	34	35	2.4	140	19.6	
42672	1810	1	34	3.7	140	15.7	CHOPPY
42672	1810	17	34	3.5	140	28.0	
42672	1810	33	34	2.4	140	28.3	
42672	1910	1	35	3.2	160	24.9	CALM
42672	1910	17	35	2.6	140	29.9	
42672	1910	33	35	2.1	140	30.0	
42672	2010	1	34	1.5	160	27.5	CALM
42672	2010	16	34	1.5	130	30.0	
42672	2010	33	34	1.0	110	30.2	
42672	2110	1	33	1.5	310	28.3	CALM
42672	2110	16	33	0.7	330	30.0	
42672	2110	32	33	0.4	330	30.1	

Table 8

PROTOTYPE VELOCITIES AND SALINITIES AT STATION B3

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0730	1	33	0.8	030	29.1	ROUGH
42672	0730	15	33	1.2	180	29.3	
42672	0730	32	33	1.3	180	29.4	
42672	0830	2	31	2.2	350	29.6	
42672	0830	15	31	1.2	320	29.8	
42672	0830	30	31	1.4	320	29.3	
42672	0920	1	30	2.5	330	15.5	ROUGH
42672	0920	15	30	1.0	330	28.9	
42672	0920	29	30	1.2	310	29.5	
42672	1020	1	29	2.3	310	15.5	CHOPPY
42672	1020	15	29	2.9	310	21.0	
42672	1020	28	29	0.8	300	25.0	
42672	1120	1	29	3.7	320	11.8	CHOPPY
42672	1120	14	29	3.8	320	16.3	
42672	1120	28	29	1.0	340	15.9	
42672	1220	1	29	4.6	330	10.3	CHOPPY
42672	1220	14	29	2.8	320	13.7	
42672	1220	28	29	0.8	360	20.2	
42672	1320	1	28	3.4	320	8.2	CHOPPY
42672	1320	14	28	2.0	320	13.5	
42672	1320	27	28	0.7	320	16.1	
42672	1410	1	28	1.3	320	7.8	SMOOTH
42672	1410	14	28	0.7	310	16.6	
42672	1420	27	28	0.5	270	20.9	
42672	1510	1	27	0.6	160	6.3	SMOOTH
42672	1510	14	27	2.0	160	12.0	
42672	1520	26	27	0.2	140	16.3	
42672	1610	1	27	3.7	160	10.7	
42672	1610	13	27	2.5	160	13.9	
42672	1620	25	27	1.2	160	14.4	
42672	1710	1	28	2.8	140	12.2	CHOPPY
42672	1710	14	28	3.0	140	19.4	
42672	1720	27	28	2.0	130	20.5	
42672	1810	1	28	3.3	160	15.4	CHOPPY
42672	1810	14	28	2.6	140	28.3	
42672	1810	27	28	1.8	140	28.3	
42672	1910	1	28	1.5	170	23.5	CALM
42672	1910	14	28	1.5	130	29.8	
42672	1910	27	28	0.5	130	29.8	
42672	2010	1	28	1.5	150	26.8	CALM
42672	2010	14	28	0.5	090	29.9	
42672	2010	27	28	0.5	090	30.0	
42672	2110	1	30	2.7	336	16.3	CALM
42672	2110	15	30	1.2	310	29.9	
42672	2110	30	30	0.7	300	30.0	

Table 9

PROTOTYPE VELOCITIES AND SALINITIES AT STATION C1

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0735	1	10	1.0	135	18.5	WATER CHOPPY
42672	0732	5	10	1.0	140	19.3	WIND INCREASING
42672	0730	9	10	1.8	142	19.7	8-10MPH WEST
42672	0805	1	11	0.6	050	16.7	
42672	0802	5	11	0.5	085	17.8	
42672	0800	10	11	0.4	010	18.8	
42672	0905	1	11	1.5	328	15.8	
42672	0902	6	11	1.0	334	17.4	
42672	0900	10	11	0.3	342	21.8	WIND INCREASING
42672	1005	1	10	1.4	318	10.7	WIND DECREASING
42672	1002	5	10	1.3	324	11.8	WATER CALM
42672	1000	9	10	1.0	310	11.8	
42672	1105	1	11	1.1	338	8.6	CHOPPY
42672	1102	4	11	1.2	340	8.9	WIND FROM NORTH
42672	1100	8	11	1.2	300	9.4	
42672	1205	1	9	0.8	306	8.7	WATER CALM IN
42672	1202	4	9	0.6	320	8.7	CHANNEL
42672	1200	8	9	1.0	330	8.7	
42672	1305	1	9	0.6	304	7.7	WATER CALM
42672	1302	5	9	0.5	330	7.8	WIND-GUSTS TO 10MPH
42672	1300	8	9	0.4	340	7.9	FROM NORTH
42672	1405	1	8	0.5	60	7.1	WATER CALM
42672	1402	4	8	0.2	60	7.1	GENTLE BREEZE
42672	1400	7	8	0.3	330	7.2	
42672	1435	1	8	0.6	360	ND	
42672	1432	4	8	0.4	360	ND	
42672	1430	7	8	0.2	30	ND	
42672	1505	1	9	0.5	250	4.9	WIND INCREASING
42672	1502	4	9	0.0	150	5.3	FROM NW-ABOUT 5MPH
42672	1500	8	9	0.0	122	7.7	
42672	1605	1	9	2.2	138	7.1	
42672	1602	5	9	0.0	140	7.7	
42672	1600	8	9	0.0	150	9.1	
42672	1635	1	10	2.8	140	ND	
42672	1632	5	10	2.5	140	ND	
42672	1630	9	10	1.2	150	ND	
42672	1705	1	10	3.1	140	9.9	
42672	1702	5	10	2.6	142	10.7	
42672	1705	9	10	1.6	142	11.9	CHOPPY
42672	1802	1	11	1.7	146	13.8	
42672	1800	6	11	1.8	140	14.4	SLIGHTY CHOPPY
42672	1800	10	11	1.7	150	14.4	
42672	1905	11	12	1.8	148	19.4	WATER CALM
42672	1902	6	12	1.7	142	19.9	SLIGHT BREEZE
42672	1900	11	12	1.4	138	20.2	
42672	2005	1	12	1.6	146	25.7	
42672	2002	6	12	0.8	146	26.1	WIND SHIFTING
42672	2000	11	12	0.8	138	26.0	NOW FROM SW
42672	2035	1	14	0.2	128	21.9	
42672	2032	7	14	0.9	148	27.4	
42672	2030	13	14	0.6	144	27.5	
42672	2105	1	14	0.6	328	24.2	
42672	2102	7	14	0.2	54	27.8	
42672	2100	13	14	0.2	94	28.0	CALM
42672	2205	1	12	2.8	318	16.3	NO WIND
42672	2202	6	12	1.6	320	20.5	
42672	2200	11	12	1.0	308	22.0	

Table 10

PROTOTYPE VELOCITIES AND SALINITIES AT STATION C2

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0742	1	20	1.0	140	20.3	WATER CHOPPY
42672	0740	10	20	1.2	165	20.7	WIND INCREASING
42672	0738	19	20	0.5	140	20.8	8-10MPH WEST
42672	0808	1	18	0.6	155	18.8	
42672	0807	9	18	0.9	202	20.5	
42672	0806	16	18	0.8	192	21.1	
42672	0911	1	21	1.8	322	10.9	
42672	0910	10	21	0.3	330	21.2	
42672	0908	19	21	0.2	329	23.7	WIND INCREASING
42672	1009	1	21	2.5	316	14.4	WIND DECREASING
42672	1008	10	21	1.8	332	23.7	WATER CALM
42672	1007	20	21	0.3	326	24.0	
42672	1111	1	20	1.8	322	8.6	CHOPPY
42672	1110	10	20	3.0	326	19.3	WIND FROM NORTH
42672	1109	19	20	1.2	340	20.6	
42672	1208	1	21	3.8	322	11.4	WATER CALM IN
42672	1207	10	21	2.4	314	18.6	CHANNEL
42672	1205	20	21	1.3	340	19.6	
42672	1307	1	23	3.8	326	8.6	WATER CALM
42672	1306	11	23	3.0	328	17.5	WIND-GUSTS TO 10MPH
42672	1305	22	23	1.2	330	18.4	FROM NORTH
42672	1408	1	21	2.0	328	6.7	WATER CALM
42672	1407	11	21	1.5	328	15.6	GENTLE BREEZE
42672	1406	20	21	0.8	304	16.2	
42672	1507	1	16	0.4	250	8.7	WIND INCREASING
42672	1506	8	16	0.0	200	12.4	FROM NW-ABOUT 5MPH
42672	1505	15	16	0.0	138	14.2	
42672	1608	1	20	2.0	150	11.5	
42672	1607	10	20	0.0	150	12.0	
42672	1606	19	20	0.0	150	16.3	
42672	1708	1	23	3.8	136	12.2	CHOPPY
42672	1707	11	23	2.8	150	13.8	
42672	1706	22	23	1.7	162	13.2	
42672	1808	1	18	2.5	164	13.8	
42672	1806	9	18	2.5	148	14.9	SLIGHTLY CHOPPY
42672	1805	17	18	2.1	138	15.0	
42672	1908	1	28	2.0	160	20.6	WATER CALM
42672	1907	14	28	1.9	146	21.1	SLIGHT BREEZE
42672	1906	27	28	1.8	128	21.8	
42672	2009	1	23	1.3	146	25.9	WIND SHIFTING NOW
42672	2008	12	23	1.3	150	27.1	FROM S+
42672	2006	22	23	0.6	140	27.4	
42672	2037	1	22	0.2	144	28.2	
42672	2036	16	22	1.1	150	28.2	
42672	2035	21	22	0.6	118	28.3	
42672	2107	1	24	1.0	330	28.4	CALM
42672	2106	12	24	0.2	160	28.7	
42672	2105	23	24	0.2	082	28.7	
42672	2208	1	25	2.6	320	24.0	
42672	2207	13	25	1.2	330	28.5	NO WIND
42672	2205	24	25	0.4	010	28.6	

Table 11

PROTOTYPE VELOCITIES AND SALINITIES AT STATION C5

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0751	1	31	1.0	116	19.0	WATER CHOPPY
42672	0750	11	31	1.4	145	21.1	WIND INCREASING
42672	0747	30	31	1.3	170	21.6	8-10 MPH WEST
42672	0815	1	32	0.4	110	21.9	
42672	0814	16	32	1.5	165	21.9	
42672	0813	31	32	0.9	172	22.0	
42672	0917	1	30	2.0	352	12.2	WIND INCREASING
42672	0916	14	30	0.2	030	22.2	
42672	0914	29	30	0.2	120	24.7	
42672	1016	1	29	3.1	322	21.1	WIND DECREASING
42672	1015	14	29	1.2	326	24.6	WATER CALM
42672	1014	28	29	0.2	012	24.9	
42672	1119	1	29	2.2	334	9.4	CHOPPY
42672	1118	15	29	3.2	316	20.0	WIND FROM NORTH
42672	1117	28	29	1.2	320	26.7	
42672	1213	1	26	3.0	320	13.5	WATER CALM IN
42672	1212	13	26	2.8	316	19.3	CHANNEL
42672	1210	25	26	1.2	316	19.3	
42672	1312	1	25	2.4	318	12.3	WATER CALM
42672	1311	12	25	2.5	314	19.0	WIND-GUSTS TO 10MPH
42672	1310	24	25	0.8	320	19.2	FROM NORTH
42672	1414		24	1.8	310	9.7	WATER CALM
42672	1413	12	24	1.1	330	18.1	GENTLE BREEZE
42672	1412	23	24	0.5	354	18.1	
42672	1514	1	27	0.4	150	15.9	WIND INCREASING
42672	1513	14	27	0.0	150	18.1	FROM N--ABOUT 5MPH
42672	1512	26	27	0.0	152	19.2	
42672	1617	1	27	2.6	150	8.2	
42672	1616	13	27	0.0	150	18.8	
42672	1615	26	27	0.0	130	18.8	
42672	1635	1	29	2.7	150	ND	
42672	1634	15	29	3.2	146	ND	
42672	1633	28	29	1.0	130	ND	
42672	1715	1	29	2.4	144	13.7	CHOPPY
42672	1714	14	29	3.0	156	16.3	
42672	1713	23	29	1.4	140	16.2	
42672	1816	1	18	2.0	150	13.9	SLIGHTLY CHOPPY
42672	1814	9	18	3.0	152	15.6	
42672	1813	17	18	2.7	150	15.6	
42672	1913	1	29	1.5	144	22.7	WATER CALM
42672	1912	15	29	2.4	148	22.7	SLIGHT BREEZE
42672	1911	28	29	2.0	128	23.0	
42672	2016	1	25	0.2	130	27.7	WIND SHIFTING-NO-
42672	2015	13	25	1.3	142	27.7	FROM S-
42672	2014	24	25	0.8	144	27.8	
42672	2043	1	28	0.4	342	28.3	
42672	2042	14	28	0.7	134	28.5	
42672	2041	27	28	1.1	128	28.5	
42672	2113	1	30	1.8	328	28.4	CALM
42672	2112	15	30	0.2	102	28.5	NO WIND
42672	2111	29	30	0.2	098	28.7	
42672	2214		29	2.0	338	26.8	
42672	2213	14	29	0.8	320	28.4	
42672	2211	28	29	0.4	342	28.5	

Table 12

PROTOTYPE VELOCITIES AND SALINITIES AT STATION C4

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0835	1	18	1.0	135	19.8	
42672	0832	9	18	1.8	122	20.0	
42672	0830	15	18	1.2	119	20.7	
42672	0905	1	18	0.4	224	21.2	
42672	0902	9	18	0.2	179	22.4	
42672	0900	15	18	0.1	142	22.5	
42672	1005	2	18	2.9	029	19.6	
42672	1002	9	18	0.6	300	22.5	
42672	1000	15	18	0.1	318	22.6	
42672	1105	2	17	4.2	288	7.0	
42672	1102	9	17	2.2	240	16.6	
42672	1100	14	17	1.0	294	ND	
42672	1205	2	18	4.5	292	5.4	
42672	1202	9	18	3.2	290	12.6	
42672	1200	15	18	1.2	286	13.6	
42672	1305	2	16	4.0	290	5.6	
42672	1302	8	16	2.0	288	8.5	
42672	1300	13	16	1.8	283	8.7	
42672	1405	2	16	2.6	299	5.6	
42672	1402	8	16	2.0	292	5.8	
42672	1400	15	16	0.8	288	6.0	
42672	1505	2	16	1.0	296	4.9	
42672	1502	8	16	0.8	300	5.2	
42672	1500	13	16	0.6	300	5.6	
42672	1605	2	18	0.3	132	4.8	
42672	1602	9	18	1.0	150	5.4	
42672	1600	15	18	0.7	120	7.3	
42672	1705	2	18	1.5	013	6.2	
42672	1702	9	18	2.6	126	7.7	
42672	1700	15	18	1.7	112	11.2	
42672	1805	2	19	1.8	136	9.7	
42672	1802	10	19	1.7	122	14.4	
42672	1800	16	19	1.5	114	15.1	
42672	1905	2	18	1.4	154	19.0	
42672	1902	9	18	2.4	124	20.5	
42672	1900	15	18	2.6	104	20.6	
42672	2005	2	19	0.5	122	27.6	
42672	2002	16	19	2.0	118	27.8	
42672	2005	16	19	1.4	120	28.2	
42672	2105	2	19	0.4	156	18.2	
42672	2102	10	19	0.4	130	28.9	
42672	2100	16	19	0.3	130	28.9	
42672	2230	2	18	0.0	294	25.3	
42672	2227	9	18	0.0	308	28.7	
42672	2225	15	18	1.0	300	28.6	

Table 13

PROTOTYPE VELOCITIES AND SALINITIES AT STATION E1

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0705	2	16	0.5	113	6.2	SLIGHTLY CHOPPY
42672	0702	8	16	1.1	112	7.9	
42672	0700	13	16	1.5	111	13.3	
42672	0805	2	16	0.4	066	7.0	SLIGHTLY CHOPPY
42672	0802	8	16	1.0	084	7.2	
42672	0800	13	16	1.1	090	16.1	
42672	0905	2	14	1.3	338	10.8	
42672	0902	7	14	0.2	005	11.2	
42672	0900	12	14	0.4	026	16.3	
42672	1005	2	14	2.1	320	13.1	
42672	1002	7	14	1.3	308	14.3	
42672	1000	12	14	1.0	310	15.3	
42672	1105	2	14	3.1	317	10.5	SLIGHTLY CHOPPY
42672	1102	7	14	2.4	303	14.0	
42672	1100	12	14	1.5	304	15.8	
42672	1205	2	13	3.4	315	5.6	
42672	1202	6	13	2.5	297	13.5	
42672	1200	11	13	1.3	293	13.7	
42672	1305	2	12	3.0	313	5.1	
42672	1302	6	12	2.4	300	8.2	
42672	1300	10	12	1.1	302	10.4	
42672	1405	2	12	1.9	305	3.4	
42672	1402	6	12	1.5	298	5.9	
42672	1400	10	72	1.0	300	6.3	
42672	1505	2	12	0.5	302	5.0	
42672	1502	6	12	0.5	267	5.2	
42672	1500	10	12	0.3	270	5.4	
42672	1705	2	15	1.7	155	4.6	
42672	1702	8	15	1.8	150	8.7	
42672	1700	13	15	0.9	138	8.9	
42672	1805	2	15	1.4	157	7.2	
42672	1802	8	15	1.5	136	9.4	
42672	1800	13	15	1.5	121	9.5	
42672	1905	2	16	1.5	162	7.3	
42672	1902	8	16	1.4	144	9.9	
42672	1900	14	16	1.4	122	12.3	
42672	2005	2	16	1.3	173	8.9	
42672	2002	8	16	1.7	128	9.0	
42672	2000	14	16	0.7	110	15.3	
42672	2105	2	16	0.5	140	12.1	
42672	2102	8	16	0.9	105	18.3	
42672	2100	14	16	1.3	100	18.5	
42672	2205	2	15	1.5	340	11.2	
42672	2202	8	15	0.7	320	12.6	
42672	2200	13	15	0.3	334	18.7	
91372	2052	6	12	1.0	330	10.3	SLIGHT BREEZE
91372	2050	10	12	0.4	310	13.7	

Table 14

PROTOTYPE VELOCITIES AND SALINITIES AT STATION E2

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0715	2	16	1.0	136	8.3	SLIGHTLY CHOPPY
42672	0712	8	16	1.4	118	15.8	
42672	0710	13	16	2.1	111	16.0	
42672	0810	2	16	0.3	277	8.7	SLIGHTLY CHOPPY
42672	0807	8	16	0.5	193	13.2	
42672	0805	13	16	1.2	135	16.5	
42672	0910	2	14	1.3	330	8.5	
42672	1008	7	14	1.7	300	15.8	
42672	0908	7	14	0.7	273	10.4	
42672	0905	12	14	0.2	308	16.4	
42672	1010	2	14	2.2	307	12.8	
42672	1005	12	14	1.1	290	15.9	
42672	1110	2	14	3.4	312	5.4	SLIGHTLY CHOPPY
42672	1108	7	14	1.9	298	13.1	
42672	1105	12	14	1.7	283	15.8	
42672	1210	2	13	3.3	310	12.9	
42672	1208	6	13	2.2	295	13.9	
42672	1205	11	13	2.4	290	14.2	
42672	1316	2	12	2.7	311	2.6	
42672	1308	6	12	2.1	294	9.2	
42672	1305	10	12	1.7	285	10.5	
42672	1410	2	12	1.8	295	2.1	
2672	1408	6	12	1.6	300	6.0	
42672	1405	10	12	0.6	283	6.9	
42672	1510	2	12	0.7	267	4.3	
42672	1508	6	12	0.9	235	5.0	
42672	1505	10	12	0.3	205	5.3	
42672	1710	2	15	1.9	142	4.8	
42672	1708	7	15	1.7	146	4.8	
42672	1705	13	15	0.9	140	9.5	
42672	1810	2	15	1.5	127	6.4	
42672	1805	8	15	2.5	122	8.3	
42672	1800	13	15	0.4	132	10.8	
42672	1910	2	16	1.6	150	6.9	
42672	1907	8	16	2.1	128	8.1	
42672	1905	14	16	0.7	105	13.1	
42672	2010	2	16	1.5	150	6.9	
42672	2008	8	16	2.5	112	11.6	
42672	2005	14	16	1.8	104	16.0	
42672	2110	2	16	0.3	115	9.3	
42672	2108	8	16	0.3	125	10.9	
42672	2105	14	16	0.8	132	18.9	
42672	2210	2	15	1.7	325	7.9	
42672	2208	8	15	1.3	302	12.4	
42672	2205	13	15	0.1	300	19.2	

Table 15

PROTOTYPE VELOCITIES AND SALINITIES AT STATION E3

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0730	2	26	1.1	139	13.9	SLIGHTLY CHOPPY
42672	0725	13	26	1.4	111	16.8	
42672	0720	24	26	0.9	102	17.5	
42672	0820	2	26	0.7	220	14.9	SLIGHTLY CHOPPY
42672	0815	13	26	1.4	143	17.0	
42672	0810	24	26	1.4	135	20.0	
42672	0920	2	25	1.1	322	17.0	
42672	0915	13	25	0.5	292	19.6	
42672	0910	23	25	0.3	090	20.0	
42672	1020	2	25	1.9	315	16.7	
42672	1015	12	25	0.8	320	20.0	
42672	1010	23	25	0.3	340	20.2	
42672	1120	2	24	2.5	315	17.7	SLIGHTLY CHOPPY
42672	1115	12	24	1.3	308	19.7	
42672	1110	22	24	0.7	309	19.0	
42672	1220	2	23	2.7	312	16.7	
42672	1215	11	23	1.1	300	18.0	
42672	1210	21	23	0.7	326	18.0	
42672	1320	2	21	2.1	310	7.2	
42672	1315	10	21	0.9	302	15.8	
42672	1310	19	21	0.5	340	15.8	
42672	1420	2	21	1.3	298	9.3	
42672	1415	11	21	1.0	290	16.1	
42672	1410	19	21	0.4	223	16.5	
42672	1520	2	21	0.7	221	6.3	
42672	1515	11	21	1.1	160	12.6	
42672	1510	19	21	0.9	147	15.9	
42672	1720	2	25	2.6	125	12.5	
42672	1715	13	25	3.6	133	16.1	
42672	1710	23	25	1.3	158	16.1	
42672	1820	2	26	2.7	130	13.4	
42672	1815	13	26	2.7	131	14.8	
42672	1810	24	26	0.6	150	14.7	
42672	1920	2	22	1.9	158	13.6	
42672	1915	12	22	1.1	122	14.3	
42672	1910	20	22	0.5	120	14.6	
42672	2020	2	24	1.4	140	15.1	
42672	2015	12	24	1.7	088	16.4	
42672	2010	22	24	1.5	088	16.8	
42672	2120	2	23	0.3	126	14.9	
42672	2115	12	23	1.0	114	23.1	
42672	2110	21	23	1.4	134	23.0	
42672	2220	2	25	1.7	322	20.1	
42672	2215	13	25	0.3	310	21.7	
42672	2210	23	25	0.3	250	25.2	

Table 16

PROTOTYPE VELOCITIES AND SALINITIES AT STATION E4

DATE	TIME	DEPTH OF READING	WATER DEPTH	CURRENT SPEED	CURRENT DIRECTION	SALINITY	REMARKS
42672	0835	2	20	1.0	070	13.3	WEATHER GOOD
42672	0832	10	20	1.0	182	14.5	
42672	0830	15	20	1.2	170	14.8	
42672	0920	2	20	1.1	340	5.8	
42672	0917	10	20	0.6	054	15.6	
42672	0915	17	20	0.4	150	16.1	
42672	1015	2	17	2.8	344	5.0	
42672	1017	10	17	0.8	355	9.4	
42672	1020	16	17	0.1	018	15.5	
42672	1125	2	20	3.4	368	4.8	
42672	1122	10	20	2.4	360	15.0	
42672	1120	18	20	0.7	009	15.2	
42672	1225	2	19	3.6	340	4.1	
42672	1222	10	19	2.6	348	6.1	
42672	1220	16	19	1.0	350	8.7	
42672	1325	2	18	2.5	342	4.0	
42672	1322	9	18	1.9	346	4.6	
42672	1320	15	18	1.2	349	5.2	
42672	1425	2	18	1.2	360	4.0	
42672	1422	9	18	0.8	358	4.2	
42672	1420	15	18	0.4	344	4.3	
42672	1525	2	18	0.1	179	3.6	
42672	1522	9	18	0.1	178	3.9	
42672	1520	15	18	0.2	176	4.1	
42672	1605	2	18	0.3	132	ND	
42672	1725	2	20	2.2	170	4.7	
42672	1722	9	20	2.1	170	5.1	
42672	1720	17	20	1.8	170	5.4	
42672	1825	2	20	2.4	174	5.9	
42672	1822	10	20	2.8	176	7.5	
42672	1820	17	20	1.8	174	9.4	
42672	1925	2	20	1.6	170	6.1	
42672	1922	10	20	2.2	176	11.8	
42672	1920	17	20	1.9	180	12.3	
42672	2030	2	20	0.4	190	7.7	
42672	2027	10	20	1.5	180	15.0	
42672	2025	17	20	0.6	184	15.8	
42672	2140	2	20	1.2	320	7.3	
42672	2139	10	20	0.3	90	11.0	
42672	2135	17	20	0.4	180	11.1	
42672	2230	2	18	1.0	296	ND	
42672	2227	9	18	0.6	308	ND	
42672	2225	15	18	0.0	300	ND	

Table 17

PROTOTYPE VELOCITIES AND SALINITIES AT STATION F1

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0700	2	29	1.6	210	4.2	FAIR AND WINDY
42672	0658	19	29	0.2	185	4.3	1 TO 2FT WAVES
42672	0656	27	29	0.8	180	4.3	
42672	0800	2	29	1.2	210	11.3	
42672	0758	14	29	1.6	195	18.2	
42672	0756	27	29	0.8	203	18.3	
42672	0900	2	27	1.2	30	9.4	
42672	0858	12	27	0.8	290	12.0	PARTLY CLOUDY
42672	0856	25	27	0.8	90	18.8	N-NE WIND 5-10MPH
42672	1000	2	27	2.4	15	11.1	1/2FT WAVES
42672	0958	12	27	1.4	30	11.4	
42672	0956	25	27	0.5	10	11.5	
42672	1100	2	27	3.5	18	9.0	PARTLY CLOUDY
42672	1058	13	27	2.0	22	9.9	N WIND 5-10MPH
42672	1056	25	27	0.6	20	17.1	1/2FT WAVES
42672	1200	2	26	3.8	15	8.1	
42672	1158	12	26	3.1	10	14.5	
42672	1156	24	26	0.6	30	14.7	
42672	1300	2	25	3.8	20	4.9	PARTLY CLOUDY
42672	1258	12	25	2.5	12	9.8	NW WIND 5-10MPH
42672	1256	23	25	1.2	10	10.1	1/2FT WAVES
42672	1400	2	26	2.5	27	3.7	
42672	1358	12	26	1.5	30	7.0	
42672	1356	24	26	0.2	70	7.1	
42672	1500	2	25	1.0	20	4.3	PARTLY CLOUDY
42672	1458	12	25	0.5	340	4.4	NW WIND 5-10MPH
42672	1456	23	25	0.3	220	14.9	1/2FT WAVES
42672	1600	2	26	1.0	190	6.6	
42672	1558	12	26	2.2	190	7.7	
42672	1556	24	26	1.2	210	12.4	
42672	1700	2	27	2.3	190	6.6	CLEAR
42672	1658	13	27	2.9	190	6.8	NW WIND 5-10MPH
42672	1656	25	27	1.7	200	13.6	1FT WAVES
42672	1800	2	28	2.5	200	7.5	
42672	1758	13	28	3.3	180	12.9	
42672	1756	26	28	1.4	200	13.6	
42672	1900	2	29	2.6	200	11.6	
42672	1858	14	29	2.5	185	13.2	
42672	1856	27	29	1.3	210	13.2	
42672	2000	2	28	2.0	200	11.6	
42672	1958	13	28	2.0	185	12.1	
42672	1956	26	28	0.8	210	13.7	
42672	2100	2	27	0.5	180	9.0	
42672	2058	13	27	0.8	230	12.1	
42672	2056	25	27	0.4	220	14.9	
42672	2200	2	27	0.4	20	13.6	
42672	2158	5	27	0.4	20	15.0	
42672	2156	25	27	0.1	4	16.2	

Table 18

PROTOTYPE VELOCITIES AND SALINITIES AT STATION F2

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0715	2	22	1.6	190	6.1	FAIR AND WINDY
42672	0713	10	22	1.5	168	15.2	1 TO 2FT WAVES
42672	0711	20	22	1.8	152	18.6	
42672	0810	2	22	1.8	180	5.4	
42672	0808	10	22	1.3	200	18.1	
42672	0806	20	22	0.5	238	18.3	
42672	0910	2	20	1.2	30	10.1	
42672	0908	9	20	0.5	310	14.9	PARTLY CLOUDY
42672	0906	18	20	1.2	330	14.8	N-NE WIND 5-10MPH
42672	1005	2	20	2.8	30	4.2	1/2FT WAVES
42672	1003	9	20	1.8	10	6.0	
42672	1001	18	20	1.2	0	17.8	
42672	1105	2	20	3.6	25	4.8	PARTLY CLOUDY
42672	1103	9	20	3.2	18	9.9	N WIND 5-10MPH
42672	1101	18	20	1.0	5	16.9	1/2FT WAVES
42672	1210	2	18	3.0	15	4.6	
42672	1208	8	18	2.9	15	9.7	
42672	1206	16	18	1.8	10	9.7	
42672	1305	2	18	2.3	20	4.7	PARTLY CLOUDY
42672	1303	8	18	2.1	20	5.1	NW WIND 5-10MPH
42672	1301	16	18	1.5	15	5.8	1/2FT WAVES
42672	1405	2	18	2.0	15	3.2	
42672	1403	8	18	2.0	20	4.5	
42672	1401	16	18	1.2	4	4.6	
42672	1505	2	18	1.2	30	2.5	PARTLY CLOUDY
42672	1503	8	18	0.2	330	3.1	NW WIND 5-10MPH
42672	1501	16	18	0.5	195	6.8	1/2FT WAVES
42672	1605	2	18	1.3	235	3.5	
42672	1603	8	18	1.4	210	4.6	
42672	1601	16	18	.	210	6.6	
42672	1710	2	19	2.3	195	3.8	CLEAR
42672	1708	9	19	2.7	190	4.6	NW WIND 5-10MPH
42672	1706	17	19	2.1	185	7.4	1FT WAVES
42672	1810	2	20	2.6	210	5.8	
42672	1808	9	20	2.9	185	14.7	
42672	1806	18	20	1.1	220	15.0	
42672	1910	2	21	2.4	190	6.1	
42672	1908	10	21	2.4	185	7.2	
42672	1906	19	21	1.1	210	13.7	
42672	2010	2	20	1.8	200	8.3	
42672	2008	9	20	2.0	210	14.2	
42672	2006	18	20	0.8	210	14.4	
42672	2110	2	20	0.5	160	11.9	
42672	2108	9	20	0.3	180	13.3	
42672	2106	18	20	0.2	90	14.4	
42672	2210	2	19	1.5	30	6.4	
42672	2208	9	19	1.1	15	11.5	
42672	2206	17	19	1.2	15	13.6	

Table 19

PROTOTYPE VELOCITIES AND SALINITIES AT STATION F3

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0730	2	21	1.0	210	5.6	FAIR AND WINDY
42672	0728	10	21	1.6	193	15.3	1 TO 2FT WAVES
42672	0726	19	21	0.8	210	18.0	
42672	0820	2	20	1.9	184	7.1	
42672	0818	9	20	1.5	220	17.6	
42672	0816	18	20	0.5	230	18.2	
42672	0915	2	19	1.2	30	6.6	
42672	0913	9	19	0.8	340	9.1	PARTLY CLOUDY
42672	0911	17	19	0.8	15	13.0	N-NE WIND 5-10MPH
42672	1010	2	19	2.9	25	5.6	1/2FT WAVES
42672	1008	9	19	2.2	18	6.6	
42672	1006	17	19	1.0	10	17.0	
42672	1110	2	19	3.4	20	5.3	PARTLY CLOUDY
42672	1108	9	19	3.2	20	15.7	N WIND 5-10MPH
42672	1106	17	19	1.8	345	16.0	1/2FT WAVES
42672	1215	2	18	2.6	20	3.9	
42672	1213	8	18	2.8	15	4.6	
42672	1211	16	18	1.8	345	7.6	
42672	1310	2	17	2.4	20	4.0	PARTLY CLOUDY
42672	1308	8	17	2.1	23	4.9	NW WIND 5-10MPH
42672	1306	15	17	1.9	0	5.2	1/2 FT WAVES
42672	1415	2	17	1.5	20	2.8	
42672	1413	8	17	1.6	15	3.0	
42672	1411	15	17	0.8	40	4.4	
42672	1510	2	17	0.5	10	2.8	PARTLY CLOUDY
42672	1508	8	17	0.1	210	5.7	NW WIND 5-10MPH
42672	1506	15	17	0.5	230	6.2	1/2FT WAVES
42672	1610	2	18	0.6	210	3.5	
42672	1608	8	18	1.6	195	5.4	
42672	1606	16	18	1.2	200	5.5	
42672	1715	2	19	1.5	200	3.5	CLEAR
42672	1713	9	19	1.9	180	3.7	NW WIND 5-10MPH
42672	1711	17	19	1.0	200	7.2	1 FT WAVES
42672	1815	2	19	2.8	200	6.1	
42672	1813	9	19	2.7	195	7.6	
42672	1811	17	19	1.6	210	7.6	
42672	1915	2	20	2.4	210	6.9	
42672	1913	9	20	2.3	190	13.8	
42672	1911	18	20	0.6	210	14.4	
42672	2015	2	19	1.7	200	7.1	
42672	2013	9	19	1.7	190	8.3	
42672	2011	17	19	0.5	190	14.0	
42672	2115	2	19	0.2	170	7.6	
42672	2113	9	19	0.2	170	13.4	
42672	2111	17	19	0.6	60	14.4	
42672	2215	2	18	1.9	30	7.0	
42672	2213	8	18	1.1	20	13.1	
42672	2212	16	18	1.5	20	13.4	

Table 20

PROTOTYPE VELOCITIES AND SALINITIES AT STATION G

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0722	2	35	1.0	230	3.4	
42672	0720	16	35	2.2	200	10.0	
42672	0718	33	35	0.8	190	17.2	
42672	0804	2	34	0.8	220	3.4	
42672	0802	16	34	1.5	192	9.4	
42672	0800	32	32	1.3	195	17.9	
42672	0918	2	25	0.7	20	7.8	
42672	0916	12	25	0.3	30	9.0	
42672	0914	23	25	0.5	0	16.5	
42672	1003	2	13	2.0	35	4.4	
42672	1001	6	13	1.4	30	5.1	
42672	1000	11	13	0.6	25	5.1	
42672	1111	2	29	2.1	25	3.8	
42672	1109	14	29	1.9	30	14.0	
42672	1108	27	29	0.4	345	14.1	
42672	1204	2	23	2.1	30	3.9	
42672	1202	11	23	0.9	15	7.3	
42672	1200	21	23	0.4	15	9.1	
42672	1312	2	22	2.0	45	2.2	
42672	1310	10	22	1.5	30	2.5	
42672	1308	20	22	0.4	5	3.1	
42672	1404	2	19	1.9	30	1.2	
42672	1402	9	19	1.5	35	1.3	
42672	1400	17	19	0.7	10	2.4	
42672	1512	2	27	0.8	35	0.5	
42672	1510	12	27	0.5	40	3.7	
42672	1508	25	27	0.4	80	4.0	
42672	1604	2	24	0.3	210	2.4	
42672	1602	11	24	0.5	205	3.4	
42672	1600	22	24	0.4	230	5.0	
42672	1704	2	35	1.6	215	6.9	
42672	1702	16	35	3.5	200	11.4	
42672	1700	33	35	1.9	210	11.4	
42672	1810	2	33	1.5	220	4.8	
42672	1808	16	33	2.0	190	9.4	
42672	1806	33	33	1.2	200	12.9	
42672	1904	2	34	2.4	215	7.0	
42672	1902	16	34	2.8	200	13.7	
42672	1900	32	34	1.5	200	13.7	
42672	2011	2	34	1.2	12	8.0	
42672	2009	16	34	2.3	23	13.1	
42672	2007	32	34	1.2	12	13.2	
42672	2107	2	35	0.4	225	8.5	
42672	2105	17	35	1.2	195	13.5	
42672	2103	33	35	0.5	185	13.5	
42672	2217	2	26	1.2	35	5.9	
42672	2215	12	26	0.1	15	7.2	
42672	2213	24	26	0.2	10	13.9	
42672	2234	2	14	1.7	35	5.8	
42672	2232	6	14	1.2	35	5.8	
42672	2230	12	14	0.2	20	7.1	

Table 21

PROTOTYPE VELOCITIES AND SALINITIES AT STATION H

DATE	TIME (PDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0714	2	22	1.5	210	2.9	
42672	0712	10	22	2.5	190	4.7	
42672	0710	20	22	1.0	145	11.4	
42672	0821	2	36	0.9	180	3.1	
42672	0819	17	36	1.1	165	16.2	
42672	0816	34	36	0.5	150	16.7	
42672	0907	2	33	1.1	340	4.4	
42672	0905	16	33	0.5	175	13.3	
42672	0903	31	33	0.5	140	17.2	
42672	1015	2	35	1.4	10	4.0	
42672	1013	17	35	1.6	350	8.1	
42672	1011	33	35	1.0	340	16.8	
42672	1103	2	35	1.1	360	4.4	
42672	1102	16	35	1.6	345	6.7	
42672	1100	33	35	1.5	345	14.9	
42672	1215	2	34	1.2	355	4.5	
42672	1213	16	34	1.5	340	5.2	
42672	1211	32	34	1.0	330	14.2	
42672	1304	2	33	1.1	15	3.6	
42672	1302	15	33	1.2	30	3.9	
42672	1300	31	33	1.0	330	9.9	
42672	1413	2	33	1.3	15	2.9	
42672	1411	16	33	0.4	355	4.7	
42672	1409	31	33	0.2	320	8.6	
42672	1504	2	32	0.9	30	2.4	
42672	1502	15	32	0.2	90	3.1	
42672	1500	30	32	0.2	90	4.8	
42672	1711	2	20	1.8	165	4.3	
42672	1709	9	20	2.3	170	9.4	
42672	1707	18	20	1.1	125	9.4	
42672	1804	2	20	2.5	180	5.7	
42672	1802	9	20	2.8	170	9.5	
42672	1800	18	20	1.0	130	9.7	
42672	1911	2	20	2.4	180	4.5	
42672	1909	9	20	3.0	180	8.6	
42672	1907	18	20	1.2	125	10.5	
42672	2004	2	20	2.5	180	4.7	
42672	2002	9	20	1.8	160	12.6	
42672	2000	18	20	0.9	130	13.1	
42672	2116	2	21	0.2	180	7.1	
42672	2114	9	21	1.1	190	11.8	
42672	2112	19	21	0.5	130	11.9	
42672	2207	2	29	1.7	335	4.7	
42672	2205	14	29	0.8	5	7.8	
42672	2203	27	29	0.1	80	13.7	
42672	2244	2	35	0.4	30	7.1	
42672	2242	17	35	1.2	360	13.1	
42672	2240	33	35	0.8	340	13.8	

Table 22

PROTOTYPE VELOCITIES AND SALINITIES AT STATION I

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0700	1	20	2.3	190	2.4	FAIRLY STRONG
42672	0702	10	20	2.0	200	6.5	N WIND
42672	0705	19	20	0.6	206	7.7	
42672	0800	1	23	1.7	195	3.4	
42672	0802	12	23	1.4	202	6.2	
42672	0805	22	23	0.3	210	7.5	
42672	0900	1	23	0.4	214	4.1	
42672	0902	11	23	0.0	200	7.8	
42672	0905	22	23	0.0	211	7.9	
42672	1000	1	23	1.4	024	4.2	
42672	1002	11	23	1.1	026	7.3	
42672	1005	22	23	0.6	030	7.8	
42672	1100	1	22	2.4	018	3.5	
42672	1102	12	22	1.6	022	4.5	
42672	1105	21	22	0.5	030	6.0	
42672	1200	1	21	2.9	018	2.1	
42672	1202	11	21	2.1	022	3.3	
42672	1205	20	21	0.7	026	6.4	
42672	1300	1	21	2.5	014	1.6	WATER CALM
42672	1302	10	21	2.1	022	2.3	
42672	1305	20	21	0.9	019	5.0	
42672	1400	1	20	1.9	019	1.3	
42672	1402	10	20	1.4	022	1.5	
42672	1405	20	21	0.7	024	1.8	
42672	1500	1	20	1.0	014	0.9	
42672	1502	10	20	0.9	027	1.1	
42672	1505	19	20	0.0	030	1.2	
42672	1600	1	21	0.2	198	0.8	GUSTY N WIND
42672	1602	10	21	0.3	198	1.1	
42672	1605	20	21	0.0	214	1.3	
42672	1715	1	23	2.1	204	0.6	
42672	1717	11	23	1.7	198	1.5	
42672	1718	22	23	0.7	188	1.9	
42672	1800	1	23	1.8	201	2.0	
42672	1802	12	23	2.0	203	5.1	
42672	1805	22	23	0.8	212	5.4	
42672	1900	1	24	2.7	197	4.1	WIND DECREASED
42672	1902	12	24	2.1	195	5.4	
42672	1905	23	24	1.0	198	6.3	
42672	2000	1	24	2.7	195	5.3	
42672	2002	12	24	2.2	192	6.6	
42672	2005	23	24	0.7	193	6.7	
42672	2100	1	24	2.2	203	5.7	
42672	2102	12	24	1.4	195	7.9	
42672	2105	23	24	0.7	195	7.9	
42672	2200	1	24	0.1	056	5.8	
42672	2202	23	24	0.4		8.3	
42672	2205	12	24	0.3		9.0	

Table 23

PROTOTYPE VELOCITIES AND SALINITIES AT STATION J

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
42672	0915	1	23	1.1	050	1.5	ROUGH
42672	0917	11	23	1.1	200	3.3	N WIND
42672	0920	22	23	0.9	180	5.2	
42672	1002	1	22	1.9	025	0.8	N WIND
42672	1003	11	22	1.0	040	2.2	
42672	1005	21	22	0.6	055	4.6	
42672	1102	1	22	2.0	025	1.3	N WIND
42672	1103	10	22	1.3	035	2.4	
42672	1105	20	22	0.5	055	3.4	
42672	1200	1	21	1.8	025	0.8	
42672	1202	10	21	1.7	030	0.9	
42672	1205	20	21	1.0	055	1.5	DECREASED N WIND
42672	1300	1	21	1.7	030	0.0	N WIND
42672	1302	10	21	1.9	050	0.0	
42672	1305	20	21	1.1	050	0.0	
42672	1402	1	21	1.5	045	0.0	N WIND
42672	1405	10	21	1.5	035	0.0	
42672	1407	20	21	1.2	060	0.0	
42672	1500	1	21	0.8	030	0.0	WIND DECREASED
42672	1502	10	21	0.9	040	0.0	
42672	1505	20	21	0.6	030	0.0	
42672	1600	1	20	0.8	235	0.0	NW WIND
42672	1602	10	20	0.3	240	0.0	
42672	1600	19	20	0.3	070	0.0	
42672	1700	1	22	1.1	215	0.0	
42672	1702	11	22	1.0	220	0.0	
42672	1705	21	22	0.7	225	0.0	
42672	1800	1	22	4.3	205	0.0	NW WIND
42672	1802	11	22	5.2	215	0.5	
42672	1805	21	22	3.0	225	1.3	
42672	1900	1	22	5.5	200	1.5	SLIGHT WIND
42672	1902	11	22	6.3	215	2.5	
42672	1905	21	22	4.0	225	2.8	
42672	2000	1	23	4.5	205	1.8	
42672	2002	11	23	6.3	215	3.9	S WIND
42672	2005	22	23	3.5	215	4.4	
42672	2100	1	24	3.4	200	2.3	S WIND
42672	2102	12	24	3.1	220	4.8	
42672	2103	23	24	2.0	230	4.9	
42672	2200	1	23	1.5	020	2.1	
42672	2202	11	23	0.0	000	4.6	
42672	2205	22	23	1.3	030	5.0	
42672	2230	1	23	3.4	045	1.7	
42672	2232	11	23	2.9	030	3.7	
42672	2235	22	23	1.7	050	5.9	

Table 24

PROTOTYPE VELOCITIES AND SALINITIES AT STATION A1

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0534	1	25	2.4	335	21.0	
91372	0532	12	25	2.0	332	21.9	
91372	0530	24	25	1.2	318	23.3	
91372	0609	1	24	3.0	034	41.8	
91372	0607	12	24	2.2	324	20.1	
91372	0605	22	24	2.0	374	20.9	
91372	0703	1	35	2.2	354	16.9	PARTLY CLOUDY
91372	0701	18	35	1.0	312	19.1	WATER CALM
91372	0700	34	35	0.6	382	19.5	SW WIND 0-4MPH
91372	0804	1	35	1.0	018	15.0	
91372	0802	18	35	0.6	178	17.3	
91372	0800	33	35	0.6	228	18.2	
91372	0906	1	32	2.4	152	17.6	
91372	0904	16	32	2.8	126	20.1	CHOPPY
91372	0900	30	32	1.8	145	22.7	
91372	1007	1	33	3.2	150	21.2	
91372	1005	16	33	1.4	146	23.6	
91372	1003	32	33	1.6	150	26.9	
91372	1105	1	33	3.0	136	29.4	SE WIND 2-4MPH
91372	1104	16	33	2.6	140	29.7	
91372	1100	31	33	1.4	134	29.7	
91372	1204	1	32	2.6	130	29.8	
91372	1202	16	32	2.6	140	29.9	
91372	1200	30	32	1.6	135	29.8	
91372	1304	1	33	2.5	140	29.2	SE WIND 4-6MPH
91372	1302	17	33	1.3	145	30.0	
91372	1300	31	33	0.8	126	30.0	
91372	1405	1	33	0.5	100	29.5	SE WIND 4-6MPH
91372	1403	17	33	0.8	200	30.7	
91372	1400	31	33	0.5	220	30.6	
91372	1505	1	27	1.8	260	23.8	SE WIND 5-10MPH
91372	1503	14	27	1.6	318	30.9	SLIGHTLY CHOPPY
91372	1500	25	27	1.0	330	30.6	PARTLY CLOUDY
91372	1603	1	26	2.6	314	24.2	
91372	1603	13	26	2.5	315	30.2	
91372	1600	24	26	1.8	314	29.9	
91372	1704	1	24	4.8	336	23.4	
91372	1702	12	24	2.9	313	27.8	
91372	1700	22	24	2.0	313	27.9	
91372	1804	1	23	3.4	332	23.3	
91372	1802	12	23	2.4	324	24.0	
91372	1800	21	23	1.8	306	24.5	
91372	1904	1	23	3.6	340	18.5	
91372	1902	12	23	2.0	315	21.5	
91372	1900	21	23	1.0	376	23.1	
91372	2005	1	23	2.2	340	16.0	
91372	2003	12	23	1.0	306	18.8	
91372	2000	21	23	0.2	386	19.1	
91372	2056	1	25	0.6	30	15.1	
91372	2053	13	25	0.4	80	18.1	
91372	2050	23	25	0.6	100	21.9	

Table 25

PROTOTYPE VELOCITIES AND SALINITIES AT STATION A2

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0546	1	29	3.4	352	19.1	
91372	0544	15	29	2.4	350	20.9	
91372	0540	28	29	2.0	300	22.2	
91372	0620	1	25	2.8	350	17.9	
91372	0618	13	25	2.2	328	19.4	
91372	0613	25	25	1.4	294	20.3	
91372	0710	1	35	2.6	342	14.7	PARTLY CLOUDY
91372	0708	15	35	1.0	326	18.8	WATER CALM
91372	0706	28	35	0.4	240	20.3	SW WIND 0-4MPH
91372	0810	1	30	0.8	008	14.6	
91372	0809	15	30	1.4	164	17.7	
91372	0806	28	30	1.0	140	19.8	
91372	0913	1	29	3.0	146	18.2	
91372	0911	15	29	3.4	140	21.9	CHOPPY
91372	0910	27	29	1.8	140	23.7	
91372	1014	1	29	4.0	150	22.6	
91372	1012	15	29	3.4	140	28.8	
91372	1010	27	29	2.4	130	28.3	
91372	1114	1	33	3.0	135	30.0	SE WIND 2-4MPH
91372	1112	15	33	2.6	150	30.1	
91372	1110	28	33	1.4	130	29.9	
91372	1212	1	30	3.0	138	30.4	
91372	1210	15	30	3.0	136	30.4	
91372	1207	28	30	2.0	125	30.3	
91372	1312	1	32	2.6	134	29.5	SE WIND 4-6MPH
91372	1310	16	32	1.8	136	30.6	
91372	1307	30	32	1.0	040	30.4	
91372	1413	1	29	1.0	210	29.6	SE WIND 4-6MPH
91372	1411	15	29	0.5	120	30.1	
91372	1409	29	29	0.7	346	30.6	
91372	1512	1	33	1.9	292	25.0	SE WIND 5-10MPH
91372	1510	17	33	1.6	320	30.8	SLIGHTLY CHOPPY
91372	1508	31	33	2.3	353	30.9	PARTLY CLOUDY
91372	1611	1	31	3.8	330	27.9	
91372	1609	16	31	2.9	315	30.0	
91372	1607	29	31	1.9	306	30.1	
91372	1711	1	30	5.0	333	23.0	
91372	1709	15	30	2.6	310	28.0	
91372	1707	28	30	1.3	304	28.8	
91372	1810	1	30	4.3	336	21.2	
91372	1808	15	30	2.2	312	24.1	
91372	1807	28	30	1.0	308	25.4	
91372	1910	1	29	3.8	340	17.4	
91372	1908	15	29	1.6	310	21.5	
91372	1907	27	29	1.0	308	23.3	
91372	2012	1	30	2.0	336	16.2	
91372	2010	15	30	1.0	270	19.0	
91372	2008	28	30	0.4	180	23.3	

Table 26

PROTOTYPE VELOCITIES AND SALINITIES AT STATION A3

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0558	1	35	5.4	338	15.8	
91372	0557	18	35	3.4	334	20.6	
91372	0555	34	35	2.0	300	22.7	
91372	0631	1	34	4.0	338	15.4	
91372	0630	17	34	2.4	340	18.4	
91372	0627	33	34	1.6	304	20.9	
91372	0720	1	36	7.6	342	14.7	PARTLY CLOUDY
91372	0718	18	36	1.0	320	18.8	WATER CALM
91372	0716	34	36	0.4	240	20.3	SW WIND 0-4MPH
91372	0820	1	33	0.3	058	15.1	
91372	0817	17	33	1.2	160	18.4	
91372	0815	31	33	1.0	140	19.4	
91372	0924	1	33	3.2	150	21.2	
91372	0922	18	33	1.4	146	23.6	CHOPPY
91372	0920	31	33	1.6	150	26.9	
91372	1024	1	31	1.0	034	24.9	
91372	1022	16	31	2.4	142	28.5	
91372	1020	29	31	1.0	148	29.0	
91372	1125	1	32	0.5	180	27.9	SE WIND 2-4MPH
91372	1123	16	32	2.0	140	31.0	
91372	1120	33	32	1.8	150	30.9	
91372	1220	1	37	1.3	140	31.4	
91372	1218	17	37	1.8	140	31.4	
91372	1216	35	37	1.8	144	31.1	
91372	1322	1	37	2.0	125	30.4	SE WIND 4-6MPH
91372	1320	19	37	0.8	148	31.1	
91372	1317	35	37	0.4	068	31.1	
91372	1422	1	38	1.5	338	31.1	SE WIND 4-6MPH
91372	1420	19	38	1.3	328	31.1	
91372	1418	36	38	1.0	356	31.1	
91372	1520	1	37	2.5	331	23.9	SE WIND 5-10MPH
91372	1518	19	37	2.8	320	30.3	SLIGHTLY CHOPPY
91372	1516	35	37	1.8	310	30.6	PARTLY CLOUDY
91372	1619	1	36	4.2	330	26.6	
91372	1617	18	36	3.6	330	30.4	
91372	1615	34	36	3.0	320	30.3	
91372	1720	1	36	5.3	329	22.1	
91372	1718	18	36	4.0	330	28.5	
91372	1716	34	36	3.0	320	28.8	
91372	1818	1	36	4.5	336	19.6	
91372	1817	18	36	4.4	326	23.2	
91372	1815	34	36	2.3	314	26.2	
91372	1919	1	34	3.8	332	16.0	
91372	1917	17	34	2.6	332	19.8	
91372	1915	32	34	1.6	290	24.4	
91372	2025	1	36	0.8	310	15.7	
91372	2021	18	36	0.8	260	20.8	
91372	2020	34	36	0.4	158	22.4	

Table 27

PROTOTYPE VELOCITIES AND SALINITIES AT STATION B1

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0612	2	30	3.7	330	17.8	CLEAR
91372	0609	15	30	2.4	330	21.0	CALM
91372	0606	27	30	1.2	330	21.9	
91372	0712	2	30	3.0	320	18.9	CLEAR
91372	0710	20	30	1.2	340	20.7	CALM
91372	0705	27	30	0.7	300	21.3	
91372	0803	2	31	1.2	340	16.1	
91372	0802	15	31	0.4	160	20.8	
91372	0800	28	31	0.8	180	21.1	
91372	0902	2	34	1.0	160	16.3	
91372	0901	17	34	2.5	160	18.5	PARTLY CLOUDY
91372	0900	31	34	0.9	150	19.1	CALM
91372	1002	2	34	3.4	160	17.8	CLOUDY
91372	1001	18	34	3.0	150	18.0	CALM
91372	1000	31	34	1.8	150	18.1	
91372	1102	2	34	3.0	170	17.4	PARTLY CLOUDY
91372	1101	17	34	2.1	150	22.5	CALM
91372	1100	31	34	2.0	150	22.7	SE WIND 6MPH
91372	1203	2	35	3.0	180	21.6	
91372	1201	18	35	2.7	160	28.4	
91372	1200	32	35	2.0	160	28.5	
91372	1303	2	34	1.8	190	26.1	PARTLY CLOUDY
91372	1302	17	34	2.0	150	29.8	SE WIND 6MPH
91372	1300	31	34	1.4	160	30.4	
91372	1402	2	36	0.5	220	30.0	PARTLY CLOUDY
91372	1401	17	36	0.7	140	30.4	SE WIND 5MPH
91372	1400	30	36	0.5	160	68.3	
91372	1502	2	34	1.0	10	26.7	SE WIND 5MPH
91372	1501	17	34	1.2	310	29.7	
91372	1500	31	34	0.4	300	31.2	
91372	1603	2	31	2.6	340	23.8	
91372	1602	16	31	2.3	330	29.0	SE WIND 5MPH
91372	1600	28	31	1.2	330	30.1	
91372	1702	2	31	3.9	330	20.5	
91372	1701	15	31	2.5	320	25.9	
91372	1700	28	31	1.2	340	28.5	
91372	1802	2	31	3.5	320	18.2	PARTLY CLOUDY
91372	1801	15	31	3.2	320	18.8	SE WIND 4MPH
91372	1800	28	31	1.3	330	26.7	
91372	1902	2	30	3.2	320	15.5	SE WIND 4MPH
91372	1901	15	30	2.0	320	16.5	PARTLY CLOUDY
91372	1900	27	30	0.8	330	26.0	
91372	2002	2	31	2.0	320	15.6	CALM
91372	2001	15	31	1.4	320	18.7	CLEAR
91372	2000	28	31	0.4	300	24.4	
91372	2102	2	31	0.8	310	13.7	
91372	2101	15	31	1.0	120	14.9	CALM
91372	2100	28	31	1.0	130	21.7	CLEAR
91372	2136	2	33	0.4	130	13.1	
91372	2135	17	33	1.2	140	14.6	
91372	2130	30	33	1.1	130	22.4	

Table 28

PROTOTYPE VELOCITIES AND SALINITIES AT STATION B2

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0622	2	31	3.0	330	17.6	CLEAR
91372	0619	15	31	3.0	340	17.7	CALM
91372	0617	28	31	1.2	320	21.3	
91372	0717	2	31	2.0	320	17.2	CLEAR
91372	0716	15	31	1.3	340	20.2	CALM
91372	0715	28	31	0.3	300	20.3	
91372	0808	2	33	1.0	310	12.1	
91372	0807	16	33	0.7	360	16.6	
91372	0805	28	33	0.8	380	20.3	
91372	0914	2	38	2.6	150	11.8	
91372	0913	19	38	2.7	150	17.5	PARTLY CLOUDY
91372	0911	35	38	1.4	150	18.6	CALM
91372	1007	2	39	3.5	150	17.5	CLOUDY
91372	1006	20	39	2.8	150	17.7	CALM
91372	1005	36	39	0.8	120	17.9	
91372	1107	2	39	2.8	150	19.6	PARTLY CLOUDY
91372	1106	20	39	2.2	150	22.3	CALM
91372	1104	36	39	1.7	130	22.4	SE WIND 6MPH
91372	1208	2	40	2.6	160	24.3	
91372	1207	20	40	2.0	140	27.8	
91372	1205	36	40	1.2	150	27.9	
91372	1309	2	40	1.8	170	27.7	PARTLY CLOUDY
91372	1308	20	40	1.4	150	30.0	SE WIND 6MPH
91372	1307	36	40	1.0	150	30.0	
91372	1410	2	39	0.4	220	29.3	PARTLY CLOUDY
91372	1408	19	39	0.2	150	29.8	SE WIND 5MPH
91372	1407	35	39	0.3	50	30.5	
91372	1507	2	37	1.6	340	27.8	SE WIND 5MPH
91372	1506	18	37	1.3	310	29.8	
91372	1505	34	37	0.5	300	30.3	
91372	1612	2	36	2.6	280	19.5	
91372	1611	18	36	2.4	280	20.1	SE WIND 5MPH
91372	1609	33	36	1.2	280	29.8	
91372	1708	2	35	4.2	330	23.9	
91372	1707	17	35	2.2	320	25.0	
91372	1706	32	35	1.2	320	26.0	
91372	1806	2	34	3.4	330	15.2	PARTLY CLOUDY
91372	1805	17	34	2.6	330	18.7	SE WIND 4MPH
91372	1804	31	34	1.7	320	26.1	
91372	1907	2	34	3.0	290	14.4	SE WIND 4MPH
91372	1906	17	34	2.9	290	19.7	PARTLY CLOUDY
91372	1905	31	34	0.7	290	25.4	
91372	2008	2	34	1.8	310	13.7	CALM
91372	2007	17	34	0.9	330	17.9	CLEAR
91372	2006	31	34	0.3	40	24.9	
91372	2109	2	38	0.6	230	13.0	
91372	2108	19	38	0.9	160	17.6	CALM
91372	2107	35	38	0.5	60	24.0	CLEAR
91372	2144	2	38	0.8	130	13.9	
91372	2142	19	38	1.9	140	19.3	
91372	2140	35	38	0.6	130	22.5	

Table 29

PROTOTYPE VELOCITIES AND SALINITIES AT STATION B3

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0636	2	24	1.6	310	13.1	CLEAR
91372	0635	12	24	0.4	280	16.5	CALM
91372	0633	21	24	0.3	160	19.2	
91372	0725	2	26	2.0	330	13.0	CLEAR
91372	0723	13	26	0.5	30	15.3	CALM
91372	0722	23	26	0.2	100	18.9	
91372	0817	2	25	0.6	240	14.0	
91372	0815	12	25	0.5	120	15.7	
91372	0814	22	25	1.0	90	20.7	
91372	0922	2	25	2.8	150	14.4	
91372	0921	13	25	1.9	170	17.0	PARTLY CLOUDY
91372	0919	22	25	0.2	140	18.0	CALM
91372	1015	2	25	1.6	150	17.8	CLOUDY
91372	1014	13	25	2.2	160	18.4	CALM
91372	1012	22	25	1.9	150	18.4	
91372	1114	2	26	3.0	150	20.9	PARTLY CLOUDY
91372	1113	13	26	2.2	150	23.6	CALM
91372	1112	22	26	1.5	160	24.1	SE WIND 6MPH
91372	1216	2	27	2.5	150	25.4	
91372	1215	13	27	1.2	160	28.7	
91372	1213	24	27	1.0	140	28.9	
91372	1317	2	26	1.7	150	28.7	PARTLY CLOUDY
91372	1316	13	26	1.3	150	29.1	SE WIND 6MPH
91372	1315	22	26	1.0	150	30.2	
91372	1418	2	27	0.2	70	29.5	PARTLY CLOUDY
91372	1417	13	27	0.2	60	30.1	SE WIND 5MPH
91372	1416	24	27	0.4	60	30.2	
91372	1514	2	24	1.7	340	27.8	SE WIND 5MPH
91372	1513	12	24	1.4	310	29.0	
91372	1512	21	24	1.0	300	30.2	
91372	1620	2	26	2.2	330	19.7	
91372	1619	13	26	1.9	330	28.6	SE WIND 5MPH
91372	1618	23	26	0.7	330	28.6	
91372	1714	2	27	2.6	330	18.0	
91372	1713	14	27	2.2	330	25.2	
91372	1712	24	27	0.9	330	26.7	
91372	1813	2	26	3.0	320	14.5	PARTLY CLOUDY
91372	1812	13	26	1.9	340	15.9	SE WIND 4MPH
91372	1811	23	26	0.8	340	24.2	
91372	1913	2	26	2.3	320	13.8	SE WIND 4MPH
91372	1912	13	26	1.0	350	16.5	PARTLY CLOUDY
91372	1911	23	26	0.8	340	21.6	
91372	2016	2	26	1.1	350	14.9	CALM
91372	2014	13	26	0.4	50	15.0	CLEAR
91372	2013	23	26	0.6	120	23.0	
91372	2122	2	23	0.5	160	13.1	
91372	2121	12	23	0.4	150	22.0	CALM
91372	2120	20	23	0.5	150	22.1	CLEAR
91372	2153	2	25	0.8	130	14.2	
91372	2152	12	25	1.3	140	14.6	
91372	2150	22	25	0.7	100	19.6	

Table 30

PROTOTYPE VELOCITIES AND SALINITIES AT STATION C1

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0550	2	11	0.7	292	12.4	CALM
91372	0545	6	11	0.8	320	12.5	WARM
91372	0540	10	11	0.8	350	13.3	
91372	0647	2	11	0.5	310	12.4	CALM
91372	0645	5	11	0.6	312	12.5	CLOUDY
91372	0640	10	11	0.6	320	12.8	
91372	0744	2	9	1.0	328	10.4	
91372	0742	5	9	0.6	328	11.2	
91372	0740	8	9	0.3	300	12.0	
91372	0846	2	10	0.4	100	10.0	CALM
91372	0843	5	10	1.0	112	11.5	PARTLY CLOUDY
91372	0840	9	10	0.8	110	14.0	
91372	0946	2	13	2.4	120	12.0	
91372	0943	6	13	2.2	124	14.2	
91372	0940	12	13	1.2	136	16.2	
91372	1044	2	13	2.4	128	15.4	CALM
91372	1042	8	13	2.4	126	16.8	PARTLY CLOUDY
91372	1040	13	13	1.4	130	17.0	WARM
91372	1146	2	15	2.1	130	17.5	SW WIND 5MPH
91372	1144	8	15	1.8	126	17.4	OVERCAST
91372	1142	13	15	1.1	124	17.4	
91372	1248	2	15	1.5	114	19.5	CLEAR
91372	1246	7	15	1.6	124	20.8	
91372	1243	13	15	1.0	130	20.9	
91372	1346	2	15	0.6	140	22.2	PARTLY CLOUDY
91372	1344	7	15	0.7	136	23.6	
91372	1341	14	15	0.8	120	23.1	
91372	1446	12	11	1.2	300	17.9	CHOPPY-WHITECAPS
91372	1444	5	11	1.6	345	21.7	E WIND 8-10MPH
91372	1442	9	11	0.4	40	26.0	
91372	1544	2	14	1.4	300	18.0	
91372	1542	7	14	1.4	310	24.4	
91372	1540	13	14	0.4	336	24.9	
91372	1646	2	11	2.2	310	14.4	
91372	1644	6	11	1.4	304	15.6	
91372	1642	10	11	0.6	320	18.3	
91372	1744	2	13	1.0	302	14.4	
91372	1742	7	13	1.2	314	14.5	
91372	1740	12	13	0.8	320	16.4	
91372	1745	2	13	0.2	300	14.0	
91372	1843	8	13	0.4	312	14.7	
91372	1841	13	13	0.3	304	15.6	
91372	1946	2	12	1.8	300	12.4	
91372	1944	5	12	0.6	295	13.2	
91372	1942	10	12	0.8	295	14.5	
91372	2044	2	10	0.8	310	11.1	
91372	2042	5	11	0.3	340	11.9	
91372	2040	10	11	0.4	40	14.9	

Table 31

PROTOTYPE VELOCITIES AND SALINITIES AT STATION C2

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0607	2	17	1.2	310	12.3	CALM
91372	0605	9	17	1.4	305	12.6	WARM
91372	0600	16	17	0.5	355	19.2	
91372	0655	2	17	1.8	317	11.6	CALM
91372	0653	8	17	1.0	308	12.4	CLOUDY
91372	0651	15	17	0.8	290	18.3	
91372	0752	2	15	1.2	300	10.2	
91372	0750	8	15	0.6	230	11.7	
91372	0747	14	15	0.3	150	17.2	
91372	0854	2	16	0.9	110	10.8	CALM
91372	0851	8	16	1.4	120	13.1	PARTLY CLOUDY
91372	0848	15	16	0.6	110	17.9	
91372	0955	2	20	2.8	124	12.4	
91372	0953	10	20	3.0	122	15.6	
91372	0951	19	20	1.2	135	17.1	
91372	1055	2	21	2.3	130	16.5	CALM
91372	1053	10	21	2.1	118	16.5	PARTLY CLOUDY
91372	1051	20	21	1.3	138	16.7	WARM
91372	1155	2	22	2.0	132	17.8	SW WIND 5MPH
91372	1153	11	22	2.2	122	17.9	OVERCAST
91372	1151	21	22	1.5	120	17.8	
91372	1250	2	22	1.6	120	19.6	CLEAR
91372	1250	11	22	1.6	130	21.4	
91372	1253	21	22	1.6	110	21.7	
91372	1357	2	18	0.3	130	22.0	PARTLY CLOUDY
91372	1355	9	18	0.8	130	24.5	
91372	1352	17	18	0.5	90	24.8	
91372	1455	2	20	1.2	255	18.1	CHOPPY--WHITECAPS
91372	1453	10	20	1.4	230	25.9	E WIND 8-10MPH
91372	1451	19	20	1.0	150	26.9	
91372	1553	2	20	1.4	306	17.8	
91372	1551	10	20	1.6	322	23.3	
91372	1549	19	20	0.8	296	25.7	
91372	1654	2	19	2.6	314	15.0	
91372	1652	9	19	1.8	310	16.6	
91372	1650	18	19	0.8	246	21.9	
91372	1752	2	19	0.6	298	14.4	
91372	1750	10	19	2.6	318	15.5	
91372	1748	18	19	1.0	348	20.1	
91372	1854	2	19	1.0	300	14.2	
91372	1852	9	19	1.8	320	14.3	
91372	1850	18	19	0.8	260	16.3	
91372	1954	2	16	1.6	310	12.2	
91372	1952	8	16	0.8	310	13.2	
91372	1951	15	16	0.4	255	18.2	
91372	2050	2	17	0.8	340	11.2	
91372	2048	9	17	0.3	150	14.0	
91372	2046	16	17	0.2	180	16.1	

Table 32

PROTOTYPE VELOCITIES AND SALINITIES AT STATION C3

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0618	2	21	2.5	300	12.1	CALM
91372	0616	10	21	1.8	310	15.5	WARM
91372	0613	21	21	0.8	328	17.6	
91372	0707	2	20	2.2	303	11.4	CALM
91372	0704	10	20	0.7	330	14.3	CLOUDY
91372	0700	19	20	0.2	025	19.55	
91372	0801	2	17	0.8	264	11.0	
91372	0759	9	17	0.2	150	13.3	
91372	0756	16	17	0.3	150	18.3	
91372	0906	2	18	1.0	132	11.3	CALM
91372	0903	8	18	1.6	132	17.0	PARTLY CLOUDY
91372	0859	17	18	1.1	145	17.4	
91372	1004	2	19	2.2	130	12.2	
91372	1002	9	19	2.5	130	14.8	
91372	0959	18	19	0.8	135	18.1	
91372	1105	2	23	1.6	124	15.1	CALM
91372	1103	11	23	2.8	128	17.2	PARTLY CLOUDY
91372	1101	22	23	1.1	130	17.1	WARM
91372	1207	2	21	1.0	144	17.3	SW WIND 5MPH
91372	1205	10	21	1.8	130	18.4	OVERCAST
91372	1203	20	21	1.0	138	18.1	
91372	1311	2	22	0.6	196	19.6	CLEAR
91372	1308	11	22	1.6	226	22.6	
91372	1300	21	22	1.4	140	22.7	
91372	1406	2	23	0.4	190	22.6	PARTLY CLOUDY
91372	1404	11	23	1.0	146	25.4	
91372	1402	22	23	0.4	100	26.0	
91372	1507	2	21	1.2	320	23.7	CHOPPY-WHITECAPS
91372	1505	10	21	0.8	120	26.1	E WIND 8-10 MPH
91372	1503	20	21	0.8	140	27.2	
91372	1603	2	20	2.0	310	16.1	
91372	1601	10	20	1.4	315	20.0	
91372	1559	19	20	0.6	340	26.5	
91372	1702	2	22	2.5	310	13.9	
91372	1700	11	22	1.8	310	17.8	
91372	1658	21	22	1.0	304	25.4	
91372	1802	2	21	0.7	318	13.8	
91372	1800	11	21	1.0	305	17.1	
91372	1758	20	21	0.4	300	19.2	
91372	1904	2	19	1.8	310	13.3	
91372	1902	9	19	1.8	300	16.0	
91372	1900	18	19	1.8	312	17.7	
91372	2002	2	18	1.4	300	12.2	
91372	2000	9	18	0.8	310	14.8	
91372	1958	17	18	0.3	335	15.6	
91372	2104	2	17	0.6	325	11.3	
91372	2102	8	17	0.4	140	13.0	
91372	2100	16	17	0.4	120	17.0	

Table 33

PROTOTYPE VELOCITIES AND SALINITIES AT STATION C4

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0510	2	15	3.6	290	11.4	CALM
91372	0504	8	15	2.5	290	16.1	COOL
91372	0500	14	15	0.8	286	17.0	
91372	0615	2	16	3.8	28	9.9	
91372	0613	8	16	2.6	28	12.0	
91372	0610	15	16	0.4	28	14.2	
91372	0704	2	16	3.4	292	9.5	
91372	0702	8	16	2.1	292	11.1	
91372	0700	15	16	0.5	294	12.1	
91372	0805	2	15	2.3	293	10.6	
91372	0803	8	15	1.4	293	11.0	
91372	0800	12	15	0.7	290	10.7	
91372	0907	2	16	0.4	248	10.2	CALM
91372	0905	8	16	0.5	128	11.2	WARM
91372	0900	13	16	0.8	128	12.4	
91372	1005	2	16	1.2	118	13.7	
91372	1003	8	16	1.7	111	13.3	
91372	1000	13	16	1.4	113	13.6	
91372	1104	2	17	1.9	126	15.2	SE WIND 5MPH
91372	1102	8	17	1.4	123	15.6	WARM
91372	1100	14	17	1.2	111	15.8	
91372	1204	2	18	1.8	113	17.4	NE WIND 5MPH WITH
91372	1202	9	18	1.6	120	17.5	RAIN
91372	1200	15	18	1.4	118	18.1	
91372	1304	2	18	0.4	129	17.5	NE WIND 5-10MPH
91372	1302	8	18	1.9	115	19.8	
91372	1300	15	18	1.5	115	20.8	
91372	1404	2	18	0.3	120	24.7	
91372	1402	9	18	0.7	119	25.1	
91372	1400	15	18	0.8	101	25.6	
91372	1503	2	17	0.8	290	14.7	SE WIND 5-10MPH
91372	1502	9	17	0.7	135	23.5	
91372	1500	14	17	0.6	130	26.4	
91372	1605	2	16	2.2	291	12.9	
91372	1603	8	16	0.9	291	18.1	
91372	1600	13	16	0.2	261	27.3	
91372	1704	2	16	3.6	287	19.1	N WIND 5MPH
91372	1702	8	16	2.2	293	24.8	
91372	1700	12	16	0.6	309	26.4	
91372	1804	2	15	4.0	286	16.4	S WIND 5MPH
91372	1802	8	15	2.6	290	18.0	
91372	1800	12	15	1.7	293	18.0	
91372	1904	2	16	4.2	290	13.4	
91372	1902	8	16	3.0	294	14.3	
91372	1900	13	16	1.8	293	14.6	
91372	2000	2	15	3.4	289	18.8	
91372	2002	8	15	2.0	290	11.5	
91372	2000	13	15	1.1	290	11.6	
91372	2107	2	15	1.4	289	10.8	
91372	2105	8	15	0.1	309	10.9	
91372	2100	12	15	0.2	29	12.0	

Table 34

PROTOTYPE VELOCITIES AND SALINITIES AT STATION E1

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0505	2	13	2.8	306	10.2	CALM
91372	0503	8	13	2.0	300	13.2	WARM
91372	0500	11	13	1.2	300	13.6	
91372	0604	2	12	2.8	308	4.2	CALM
91372	0602	6	12	2.4	300	6.3	WARM
91372	0600	10	12	1.6	296	6.3	SLIGHT BREEZE
91372	0704	2	12	2.1	306	8.7	PARTLY CLOUDY
91372	0702	6	12	2.0	298	12.2	SLIGHT BREEZE
91372	0700	10	12	1.9	282	16.0	WARM
91372	0804	2	12	1.4	300	8.0	PARTLY CLOUDY
91372	0802	6	12	1.0	292	10.3	BREEZE
91372	0800	10	12	0.8	292	10.6	WARM
91372	0904	2	12	0.6	248	9.5	CLEAR
91372	0902	6	12	0.4	223	10.9	HOT
91372	0900	10	12	0.3	133	13.4	NO WIND
91372	1004	2	14	1.2	150	10.0	CLEAR
91372	1002	7	14	1.8	130	10.6	HOT
91372	1000	12	14	0.9	122	10.8	NO WIND
91372	1105	2	14	1.2	180	11.2	FAIR
91372	1103	2	14	1.3	160	12.9	HOT
91372	1100	12	14	1.1	128	13.0	NO WIND
91372	1205	2	15	1.2	176	13.3	CLOUDY
91372	1202	8	15	0.8		14.0	SLIGHT BREEZE
91372	1200	13	15	1.2	130	15.6	
91372	1305	2	15	1.0	172	12.5	CLOUDY
91372	1303	8	15	1.2	146	12.7	HOT
91372	1300	13	15	1.1	118	16.9	BREEZE
91372	1405	2	15	0.6	180	12.9	
91372	1402	8	15	0.7	140	15.0	WARM
91372	1400	13	15	0.8	100	17.5	CLOUDY WITH RAIN
91372	1505	2	15	0.5	320	15.1	CLOUDY
91372	1502	8	15	0.6	310	17.2	HOT
91372	1500	13	15	0.5	110	17.4	
91372	1605	2	14	1.8	322	11.8	CLOUDY
91372	1603	7	14	1.6	320	18.1	BREEZE
91372	1600	12	14	0.6	320	16.3	
91372	1705	2	13	2.4	316	15.1	CLOUDY
91372	1702	7	13	2.3	314	15.6	HOT
91372	1700	11	13	1.4	300	15.7	SLIGHT BREEZE
91372	1805	2	12	2.5	312	14.0	PARTLY CLOUDY
91372	1803	6	12	1.9	310	14.0	COOL
91372	1800	10	12	1.4	308	14.1	BREEZE
91372	1905	2	12	2.5	330	11.0	CLEAR
91372	1902	6	12	1.8	332	12.9	WARM
91372	1900	10	12	1.0	330	16.2	
91372	2005	2	12	1.9	300	11.7	CLEAR
91372	2003	6	12	1.5	300	12.1	WARM
91372	2000	10	12	0.9	300	15.4	
91372	2054	2	12	1.0	336	0.9	CLEAR
91372	2052	6	12	1.0	330	10.3	SLIGHT BREEZE
91372	2050	10	12	0.4	310	13.7	

Table 35

PROTOTYPE VELOCITIES AND SALINITIES AT STATION E2

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0513	2	13	2.8	306	10.5	CALM
91372	0512	8	13	2.0	300	14.1	WARM
91372	0510	11	13	1.2	300	15.6	
91372	0610	2	13	2.4	310	4.5	CALM
91372	0608	7	13	2.0	292	5.5	WARM
91372	0606	11	13	1.0	288	7.3	SLIGHT BREEZE
91372	0710	2	13	2.0	316	9.8	PARTLY CLOUDY
91372	0708	7	13	1.4	290	10.0	SLIGHT BREEZE
91372	0706	11	13	0.8	270	11.6	WARM
91372	0811	2	13	1.0	296	5.4	PARTLY CLOUDY
91372	0809	7	13	0.6	258	7.9	BREEZE
91372	0807	11	13	0.4	282	8.0	WARM
91372	0910	2	15	0.6	160	7.7	CLEAR
91372	0908	8	15	0.4	156	12.1	HOT
91372	0906	13	15	0.8	120	12.3	NO WIND
91372	1010	2	15	1.6	140	8.4	CLEAR
91372	1008	8	15	2.0	130	13.7	HOT
91372	1006	13	15	1.4	120	13.7	NO WIND
91372	1113	2	15	2.1	160	10.2	FAIR
91372	1110	8	15	2.0	130	10.7	HOT
91372	1108	13	15	2.0	120	10.8	NO WIND
91372	1213	2	14	1.4	170	11.2	CLOUDY
91372	1210	8	14	1.3	150	11.4	SLIGHT BREEZE
91372	1208	12	14	2.0	130	15.4	
91372	1312	2	16	1.2	154	11.7	CLOUDY
91372	1310	8	16	1.6	120	13.1	HOT
91372	1308	14	16	1.1	160	17.1	BREEZE
91372	1413	2	16	0.6	180	12.6	
91372	1410	8	16	0.8	124	13.8	WARM
91372	1408	14	16	1.0	108	17.7	CLOUDY WITH RAIN
91372	1515	2	15	0.7	300	11.9	CLOUDY
91372	1511	8	15	0.7	270	12.5	HOT
91372	1508	13	15	0.5	220	18.2	
91372	1612	2	14	2.0	324	11.7	CLOUDY
91372	1610	7	14	1.8	320	12.5	BREEZE
91372	1608	12	14	1.0	334	17.6	
91372	1711	2	13	2.4	318	11.4	CLOUDY
91372	1709	7	13	1.8	304	13.4	HOT
91372	1707	11	13	1.0	300	13.4	SLIGHT BREEZE
91372	1813	2	13	2.3	314	10.0	PARTLY CLOUDY
91372	1811	7	13	2.0	310	10.6	COOL
91372	1808	11	13	1.3	320	13.1	BREEZE
91372	1913	2	13	2.3	310	8.7	CLEAR
91372	1910	7	13	1.8	308	12.1	WARM
91372	1908	11	13	1.4	310	12.9	
91372	2013	2	13	1.8	300	8.7	CLEAR
91372	2010	7	13	1.0	300	10.6	WARM
91372	2008	11	13	0.6	300	12.0	
91372	2104	2	13	0.5	310	9.0	CLEAR
91372	2102	7	13	0.5	350	9.5	SLIGHT BREEZE
91372	2059	11	13	0.7	120	9.8	

Table 36

PROTOTYPE VELOCITIES AND SALINITIES AT STATION E3

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0521	2	20	2.2	310	10.5	CALM
91372	0519	9	20	1.2	300	18.2	WARM
91372	0517	18	20	0.6	338	18.7	
91372	0617	2	19	2.2	310	8.5	CALM
91372	0615	10	19	1.6	330	16.9	WARM
91372	0613	17	19	0.8	330	17.1	SLIGHT BREEZE
91372	0716	2	19	1.6	306	8.5	PARTLY CLOUDY
91372	0714	10	19	1.2	284	12.8	SLIGHT BREEZE
91372	0712	17	19	0.6	300	15.2	WARM
91372	0817	12	18	0.6	272	8.1	PARTLY CLOUDY
91372	0815	19	18	0.6	240	10.5	BREEZE
91372	0813	16	18	0.4	098	10.5	WARM
91372	0917	2	21	1.1	140	8.0	CLEAR
91372	0915	10	21	1.2	130	12.1	HOT
91372	0913	19	21	1.4	120	14.6	NO WIND
91372	1016	2	21	2.1	130	8.5	CLEAR
91372	1014	11	21	2.3	130	16.5	HOT
91372	1012	19	21	1.4	152	16.5	NO WIND
91372	1120	2	21	1.8	148	10.2	FAIR
91372	1117	11	21	2.8	134	16.7	HOT
91372	1115	19	21	1.8	120	16.7	NO WIND
91372	1219	2	22	1.9	152	10.8	CLOUDY
91372	1217	11	22	2.5	118	11.9	SLIGHT BREEZE
91372	1215	20	22	1.5	100	14.1	
91372	1320	2	22	1.4	150	11.0	CLOUDY
91372	1318	11	22	1.7	110	12.0	HOT
91372	1315	20	22	0.9	116	17.4	BREEZE
91372	1419	2	24	0.4	192	11.7	
91372	1417	12	24	1.0	120	17.0	WARM
91372	1415	22	24	0.9	140	17.6	CLOUDY WITH RAIN
91372	1521	2	24	0.9	136	12.8	CLOUDY
91372	1519	12	24	0.3	144	19.5	HOT
91372	1516	22	24	0.9	140	20.5	
91372	1620	2	20	2.0	320	13.5	CLOUDY
91372	1618	10	20	1.6	320	18.2	BREEZE
91372	1615	18	20	0.5	18	18.8	
91372	1719	2	20	2.0	320	13.0	CLOUDY
91372	1715	10	20	1.5	310	15.6	HOT
91372	1713	18	20	1.0	330	18.3	SLIGHT BREEZE
91372	1824	2	19	2.0	320	11.7	PARTLY CLOUDY
91372	1817	9	19	1.4	308	15.2	COOL
91372	1816	18	19	1.0	330	16.0	BREEZE
91372	1923	2	19	1.7	320	9.2	CLEAR
91372	1919	10	19	1.2	310	12.5	WARM
91372	1916	17	19	0.8	354	16.0	
91372	2022	2	18	1.0	310	9.7	CLEAR
91372	2019	9	18	1.0	290	13.8	WARM
91372	2016	16	18	0.5	330	14.3	
91372	2115	2	17	0.5	30	9.8	CLEAR
91372	2111	9	17	0.6	30	10.8	SLIGHT BREEZE
91372	2109	15	17	0.5	60	11.0	

Table 37

PROTOTYPE VELOCITIES AND SALINITIES AT STATION E4

DATE	TIME	DEPTH OF READING	WATER DEPTH	CURRENT SPEED	CURRENT DIRECTION	SALINITY	REMARKS
91372	0550	2	18	2.6	338	8.5	CALM
91372	0548	9	18	0.1	340	9.9	COOL
91372	0545	15	18	0.1	340	15.5	
91372	0635	2	18	2.6	338	8.9	
91372	0632	9	18	2.0	341	13.6	
91372	0627	15	18	0.1	334	12.6	
91372	0738	2	18	2.3	344	9.0	
91372	0735	9	18	1.8	338	10.0	
91372	0730	15	18	0.9	335	10.4	
91372	0827	2	17	2.0	4	8.4	
91372	0825	9	17	0.6	349	9.0	
91372	0823	14	17	0.4	338	9.1	
91372	0926	2	18	0.4	190	8.4	CALM
91372	0925	8	18	0.8	170	10.0	WARM
91372	0923	15	18	0.7	181	10.2	
91372	1019	2	18	1.0	174	9.2	
91372	1017	9	18	1.8	168	10.6	
91372	1015	15	18	1.4	164	10.7	
91372	1119	2	19	2.0	169	10.4	SE WIND 5MPH
91372	1117	9	19	2.2	168	11.1	WARM
91372	1115	15	19	1.6	168	11.3	
91372	1222	10	19	2.2	174	14.2	NE WIND 5MPH WITH
91372	1220	16	19	1.6	170	16.6	RAIN
91372	1218	16	19	1.6	170	16.6	
91372	1337	2	19	0.5	189	15.7	NE WIND 5-10MPH
91372	1335	10	19	1.3	186	16.1	
91372	1333	16	19	1.1	198	16.4	
91372	1420	2	20	0.5	150	17.4	
91372	1419	10	20	1.2	169	17.5	
91372	1417	18	20	0.7	168	17.9	
91372	1515	7	19	0.8	318	17.5	SE WIND 5-10MPH
91372	1514	10	19	0.1	151	17.5	
91372	1512	16	19	0.3	109	17.5	
91372	1619	2	18	2.1	340	17.5	
91372	1617	9	18	1.0	347	16.8	
91372	1615	15	18	0.6	337	16.3	
91372	1715	2	18	3.0	343	16.8	N WIND 5MPH
91372	1713	9	18	1.6	344	16.0	
91372	1712	15	18	1.2	330	12.6	
91372	1820	2	17	3.0	343	10.0	S WIND 5MPH
91372	1817	9	17	2.3	348	11.2	
91372	1815	14	17	1.2	347	15.7	
91372	1920	2	17	2.3	343	10.0	
91372	1917	8	17	2.2	351	10.5	
91372	1915	14	17	1.4	350	10.5	
91372	2018	2	18	1.4	341	9.5	
91372	2017	8	17	1.4	350	9.6	
91372	2015	14	17	1.1	355	10.2	

Table 38

PROTOTYPE VELOCITIES AND SALINITIES AT STATION 51

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0530	2	21	2.0	6	7.7	CALM
91372	0520	11	21	1.8	250	8.1	
91372	0515	13	21	1.4	5	13.6	
91372	0705	2	21	2.4	8	8.3	CALM
91372	0704	10	21	1.6	0	9.8	
91372	0700	18	21	1.4	6	9.8	
91372	0806	2	20	1.3	12	6.5	CALM
91372	0804	10	20	1.0	16	97.	
91372	0802	17	20	0.4	12	9.7	
91372	0906	2	21	0.3	194	8.0	CALM
91372	0903	10	21	0.5	200	15.2	
91372	0900	18	21	1.3	178	15.8	
91372	1004	2	23	2.2	190	10.9	CALM
91372	1002	11	23	2.1	172	13.0	
91372	1000	20	23	1.0	188	13.2	
91372	1104	2	24	1.9	194	6.6	CALM
91372	1102	12	24	2.7	168	10.9	
91372	1100	21	24	1.5	190	14.6	
91372	1206	2	25	1.9	184	13.8	RAIN
91372	1203	12	25	2.5	172	16.0	CALM
91372	1200	22	25	1.5	186	16.3	
91372	1304	2	25	1.4	190	9.5	CALM
91372	1302	12	25	1.3	178	15.8	
91372	1301	22	25	1.0	198	16.0	
91372	1402	2	23	1.3	172	11.2	CALM
91372	1400	12	23	1.3	180	14.1	
91372	1359	20	23	0.4	188	15.6	
91372	1505	2	21	0.3	250	12.1	CALM
91372	1502	11	21	0.0	240	14.4	
91372	1500	18	21	0.2	0	16.5	
91372	1612	2	23	1.8	10	12.3	CALM
91372	1610	12	23	1.5	5	13.2	
91372	1607	20	23	1.0	2	16.7	
91372	1703	2	22	2.5	8	10.2	CALM
91372	1701	11	22	2.0	10	13.3	
91372	1700	19	22	0.9	0	13.6	
91372	1806	2	21	2.4	5	8.1	1FT WAVES
91372	1804	10	21	1.7	356	11.7	
91372	1800	18	21	0.8	12	13.5	
91372	1904	2	20	2.1	9	9.1	1/2 TO 1FT WAVES
91372	1902	10	20	1.2	2	11.7	
91372	1900	17	20	1.3	12	12.1	
91372	2004	2	19	1.2	10	8.6	CALM
91372	2002	10	19	0.8	10	8.9	
91372	2000	16	19	0.5	357	9.0	
91372	2106	2	21	0.4	10	9.6	CALM
91372	2104	11	21	0.5	40	9.7	
91372	2102	18	21	0.2	40	10.1	

Table 39

PROTOTYPE VELOCITIES AND SALINITIES AT STATION F2

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	1012	2	29	2.2	190	12.6	CALM
91372	1010	14	29	2.3	178	16.0	
91372	1008	26	29	1.1	186	16.1	
91372	1110	2	29	1.9	190	7.4	CALM
91372	1108	15	29	3.0	166	12.0	
91372	1104	26	29	1.0	186	15.3	
91372	1214	2	31	2.4	194	10.1	RAIN
91372	1212	15	31	2.6	178	13.1	CALM
91372	1210	28	31	1.6	178	15.8	
91372	1311	2	30	1.7	188	11.2	CALM
91372	1308	15	30	1.4	182	15.9	
91372	1306	27	30	0.4	174	16.2	
91372	1409	2	29	0.9	190	11.5	CALM
91372	1407	20	29	1.2	192	14.8	
91372	1405	26	29	0.4	260	16.4	
91372	1510	2	26	0.2	72	11.1	CALM
91372	1509	13	26	0.2	358	15.3	
91372	1507	23	26	0.6	320	16.0	
91372	1616	2	28	2.7	7	14.1	CALM
91372	1615	14	28	1.9	7	15.6	
91372	1614	29	28	0.9	5	16.2	
91372	1708	2	28	2.7	7	14.1	CALM
91372	1706	14	28	1.9	7	15.6	
91372	1705	25	28	0.9	5	16.2	
91372	1814	2	29	3.1	8	9.9	1FT WAVES
91372	1812	14	29	2.8	3	12.0	
91372	1810	26	29	1.0	342	15.5	
91372	1910	2	18	3.0	9	11.4	1/2 TO 1FT WAVES
91372	1908	9	18	1.8	352	11.8	
91372	1906	15	18	0.9	341	13.3	
91372	2010	2	26	2.2	356	7.4	CALM
91372	2008	13	26	2.0	355	9.4	
91372	2006	23	26	0.7	313	9.9	
91372	2114	2	27	0.6	10	7.6	CALM
91372	2112	14	27	0.2	42	11.3	
91372	2110	24	27	0.8	9	14.8	

Table 40

PROTOTYPE VELOCITIES AND SALINITIES AT STATION F3

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0627	2	22	3.6	2	9.6	CALM
91372	0623	12	22	2.5	6	13.7	
91372	0620	19	22	1.1	254	14.2	
91372	0713	2	22	3.0	352	7.9	CALM
91372	0711	11	22	1.8	8	11.8	
91372	0709	19	22	1.2	16	12.0	
91372	0814	2	22	2.1	350	8.3	CALM
91372	0812	11	22	0.8	8	10.4	
91372	0810	19	22	0.4	38	10.7	
91372	0916	2	23	0.5	188	6.1	CALM
91372	0913	11	23	1.2	192	14.2	
91372	0910	20	23	1.5	184	14.5	
91372	1018	2	24	1.7	178	7.8	CALM
91372	1017	12	24	2.4	178	9.3	
91372	1016	21	24	1.1	194	16.8	
91372	1120	2	25	2.3	192	7.5	CALM
91372	1118	12	25	2.7	174	10.2	
91372	1116	22	25	1.6	196	17.6	
91372	1224	2	25	2.5	190	8.5	RAIN
91372	1222	13	25	2.4	166	11.4	CALM
91372	1220	23	25	1.1	192	17.0	
91372	1316	2	25	1.8	195	11.0	CALM
91372	1315	13	25	1.6	170	12.5	
91372	1314	22	25	1.1	182	17.0	
91372	1414	2	25	0.8	194	12.0	CALM
91372	1413	13	25	1.1	194	16.1	
91372	1411	22	25	0.2	250	17.0	
91372	1516	2	26	0.3	70	11.3	CALM
91372	1514	13	26	0.3	214	16.8	
91372	1512	23	26	0.4	103	17.2	
91372	1623	2	23	1.9	8	9.8	CALM
91372	1620	11	23	1.8	15	13.1	
91372	1619	20	23	1.2	12	17.0	
91372	1716	2	24	3.2	6	12.4	CALM
91372	1714	12	24	2.2	18	13.2	
91372	1712	21	24	1.3	357	16.2	
91372	1820	2	23	2.9	11	8.8	1FT WAVES
91372	1818	12	23	2.7	14	9.9	
91372	1816	20	23	2.1	354	13.6	
91372	1918	2	23	2.5	8	8.7	1/2 TO 1FT WAVES
91372	1916	12	23	2.3	14	9.5	
91372	1914	20	23	1.6	0	12.4	
91372	2026	2	22	2.0	350	9.0	CALM
91372	2024	11	22	1.0	10	10.9	
91372	2022	19	22	0.3	300	11.0	
91372	2124	2	23	1.0	364	9.3	CALM
91372	2122	12	23	0.2	12	12.1	
91372	2120	20	23	0.8	11	12.5	

Table 41

PROTOTYPE VELOCITIES AND SALINITIES AT STATION G

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0753	2	9	1.0	018	3.9	CALM
91372	0751	5	9	1.0	020	4.0	
91372	0748	7	9	.5	042	4.1	
91372	0828	2	9	1.2	036	4.1	CALM
91372	0826	5	10	0.7	040	4.1	
91372	0824	8	10	0.4	030	4.4	
91372	0929	2	8	0.2	168	3.9	CALM
91372	0927	4	8	0.2	184	5.8	
91372	0925	6	8	0.3	282	5.9	
91372	1035	2	30	1.1	210	6.5	CALM
91372	1033	15	30	2.4	210	11.3	
91372	1029	27	30	1.6	204	4.5	
91372	1120	2	19	1.2	226	7.3	
91372	1118	10	19	0.5	240	12.3	
91372	1116	16	19	0.4	250	12.0	
91372	1219	2	23	0.7	240	8.6	WIND INCREASING
91372	1217	12	23	1.2	200	13.4	RAIN
91372	1215	20	23	0.8	222	13.6	
91372	1324	2	32	1.0	218	9.2	
91372	1322	16	32	1.7	218	11.8	
91372	1320	29	32	1.2	226	8.5	
91372	1422	2	31	0.6	236	11.3	SLIGHTLY CHOPPY
91372	1420	16	31	0.5	230	15.2	
91372	1418	28	31	0.5	240	15.2	
91372	1524	2	9	0.4	130	10.2	CHOPPY
91372	1522	4	9	0.4	090	10.6	
91372	1518	7	9	0.6	060	11.3	
91372	1621	2	12	1.3	050	9.2	VERY CHOPPY
91372	1618	6	12	1.2	056	10.2	
91372	1615	9	12	0.6	048	10.7	
91372	1720	2	12	1.8	050	8.5	
91372	1718	6	12	1.5	048	9.6	CALM
91372	1716	9	12	0.8	042	9.7	
91372	1819	2	9	1.1	058	7.5	SLIGHTLY CHOPPY
91372	1817	4	9	1.0	050	7.6	
91372	1815	7	9	1.0	048	7.8	
91372	1917	2	9	1.4	050	6.4	CHOPPY
91372	1915	4	9	1.1	048	6.4	
91372	1913	6	9	1.2	028	6.4	
91372	1959	2	8	1.0	052	5.3	
91372	1957	4	8	1.0	050	5.4	
91372	1955	6	8	0.4	080	5.5	
91372	2125	2	8	0.4	040	4.6	CALM
91372	2122	4	8	0.1	022	4.9	
91372	2120	6	8	0.2	000	5.0	
91372	2220	2	9	0.0	060	5.2	
91372	2217	5	9	0.1	310	5.0	
91372	2215	7	9	0.0	290	6.0	

Table 42

PROTOTYPE VELOCITIES AND SALINITIES AT STATION H

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0728	2	32	1.6	20	6.6	CALM
91372	0727	16	32	0.8	330	8.4	NO WIND
91372	0720	29	32	0.6	336	11.4	
91372	0809	2	32	1.5	28	6.8	CALM
91372	0807	16	32	0.7	328	10.2	
91372	0805	29	32	0.8	340	10.5	
91372	0909	2	33	0.5	082	4.2	CALM
91372	0907	16	33	0.4	130	5.3	
91372	0905	30	33	0.6	176	8.4	
91372	1006	2	19	1.2	162	6.6	CALM
91372	1004	9	19	1.6	162	9.3	
91372	1002	16	19	0.9	162	9.6	
91372	1105	2	19	1.4	172	11.7	WIND INCREASING
91372	1103	9	19	1.8	174	13.2	WATER CALM
91372	1100	16	19	0.6	160	13.7	
91372	1205	2	20	2.0	214	7.4	CALM
91372	1203	10	20	2.3	208	11.8	
91372	1201	17	20	0.9	200	13.5	
91372	1309	2	21	1.4	204	8.3	CALM
91372	1307	10	21	1.6	204	14.1	RAIN
91372	1305	18	21	0.5	164	14.1	
91372	1407	2	20	0.9	194	8.3	SLIGHTLY CHOPPY
91372	1405	10	20	1.1	194	12.9	WIND 4-5MPH
91372	1507	2	32	0.3	020	15.8	CHOPPY
91372	1505	16	32	0.4	156	15.6	NE WIND 5-7MPH
91372	1502	29	32	0.4	180	6.6	
91372	1605	2	27	0.9	074	8.4	CHOPPY
91372	1603	13	27	1.6	020	14.2	E WIND 5-7MPH
91372	1601	24	27	1.2	010	14.3	
91372	1704	2	27	0.9	074	8.4	WIND DECREASED
91372	1702	14	27	1.6	020	14.2	CALM
91372	1700	24	27	1.2	010	14.3	
91372	1804	2	26	1.1	024	9.3	WIND INCREASING
91372	1802	13	26	1.6	028	9.9	CALM
91372	1800	23	26	1.6	064	10.9	
91372	1905	2	32	1.6	042	8.0	CHOPPY
91372	1902	16	32	0.3	046	9.7	S WIND 5-7 MPH
91372	1900	24	32	0.4	020	11.3	
91372	2043	2	32	1.4	046	6.8	CALM
91372	2041	16	32	0.3	346	9.0	
91372	2039	29	32	0.6	340	11.6	
91372	2105	2	32	1.2	052	6.3	CALM
91372	2102	16	32	0.2	020	8.1	
91372	2100	29	32	0.9	350	10.9	
91372	2206	2	29	0.1	162	5.2	
91372	2203	15	29	0.2	176	9.3	
91372	2200	26	29	0.3	100	10.0	

Table 43

PROTOTYPE VELOCITIES AND SALINITIES AT STATION I

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	0802	4	21	1.6	26	4.6	FAIR
91372	0801	10	21	1.4	25	5.4	WATER CALM
91372	0800	20	21	0.2	359	6.8	E WIND 1-2 MPH
91372	0834	4	21	1.7	28	4.0	FAIR
91372	0832	10	21	0.8	20	5.1	CALM
91372	0830	19	21	0.2	18	6.1	E WIND 1-2MPH
91372	0902	4	22	0.3	48	4.3	PARTLY CLOUDY
91372	0901	11	22	0.0	135	5.3	CALM
91372	0900	20	22	0.0	130	5.6	WIND 1-2MPH
91372	1002	4	23	1.2	197	4.9	PARTLY CLOUDY
91372	1001	11	23	1.3	200	5.7	CALM
91372	1000	21	23	0.5	200	7.0	WIND 1-2MPH
91372	1103	4	24	1.7	200	4.9	PARTLY CLOUDY
91372	1101	12	24	1.4	198	7.0	CALM
91372	1100	22	24	0.5	197	6.9	WIND 1-2MPH
91372	1203	4	24	2.2	195	7.4	CLOUDY
91372	1201	12	24	1.8	196	9.6	CALM
91372	1200	22	24	0.6	185	9.9	SE WIND 3-5MPH
91372	1302	2	24	2.2	195	8.9	RAINY WIND 15MPH
91372	1301	12	24	1.3	200	10.6	FROM WEST
91372	1300	23	24	0.5	195	10.9	WAVES 1/2FT
91372	1402	4	24	1.9	200	9.6	PARTLY CLOUDY
91372	1401	12	24	1.0	190	11.1	E WIND 2-4MPH
91372	1400	22	24	0.2	200	11.4	
91372	1503	4	24	0.3	210	9.6	PARTLY CLOUDY
91372	1501	12	24	0.0	210	11.3	E WIND 2-4MPH
91372	1500	22	24	0.0	270	11.8	
91372	1602	4	24	0.8	26	10.1	CLOUDY
91372	1601	12	24	0.4	28	11.4	SE WIND 10-15MPH
91372	1600	22	24	0.2	29	12.0	1FT WAVES
91372	1703	4	23	1.5	21	9.3	CLOUDY WITH RAIN
91372	1701	12	23	1.5	28	10.8	SE WIND 5-10MPH
91372	1700	21	23	0.7	20	11.1	
91372	1802	4	22	2.3	22	7.1	CLEAR
91372	1801	10	22	1.8	24	8.5	SE WIND 1-5MPH
91372	1800	20	22	0.8	20	10.3	
91372	1903	4	22	2.4	25	6.0	CLEAR
91372	1901	11	22	2.0	20	8.4	SE WIND 3-7MPH
91372	1900	20	22	0.9	25	9.6	
91372	2004	4	21	1.9	24	5.6	WIND 10MPH
91372	2002	10	21	1.6	20	8.2	
91372	2000	18	21	0.6	30	8.9	
91372	2104	4	21	1.2	30	5.4	WIND 10MPH
91372	2102	10	21	1.2	20	6.3	
91372	2100	18	21	0.4	30	7.6	
91372	2205	4	22	0.1	150	5.8	
91372	2203	11	22	0.4	180	6.9	
91372	2200	20	22	0.2	200	8.3	

Table 44

PROTOTYPE VELOCITIES AND SALINITIES AT STATION J

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	835	2	21	1.6	7	1.7	CALM
91372	832	10	21	1.2	5	2.6	OVERCAST
91372	830	20	21	0.5	49	4.9	
91372	907	2	22	1.0	6	1.5	
91372	905	11	22	0.4	349	3.4	
91372	900	21	22	0.1	318	5.9	
91372	934	2	22	0.0	220	1.6	CALM
91372	932	11	22	0.4	222	4.8	CLEARING
91372	930	21	22	0.2	215	6.0	
91372	1004	2	23	0.0	250	1.7	CALM
91372	1002	11	23	0.9	240	5.2	CLEARING
91372	1000	22	23	0.0	240	5.8	
91372	1035	2	24	1.2	225	2.7	CALM
91372	1033	12	24	1.5	238	5.1	PARTLY CLOUDY
91372	1030	23	24	0.6	225	6.1	
91372	1105	2	24	1.4	221	3.5	CALM
91372	1102	12	24	1.8	238	5.5	PARTLY CLOUDY
91372	1100	23	24	0.4	254	7.6	
91372	1135	2	24	1.3	223	4.4	CALM
91372	1132	12	24	1.2	228	5.5	PARTLY CLOUDY
91372	1130	23	24	0.6	243	7.2	
91372	1204	2	24	1.4	216	3.7	PARTLY CLOUDY
91372	1202	12	24	1.4	229	6.0	SW WIND 2-5MPH
91372	1200	23	24	0.9	248	7.6	
91372	1235	2	24	1.8	224	4.8	CLOUDY
91372	1232	12	24	1.2	242	7.6	SW WIND 5-10MPH
91372	1230	23	24	0.9	228	7.8	
91372	1324	2	25	1.5	213	6.7	RAIN
91372	1322	13	25	1.3	224	8.1	SW WIND 2-5MPH
91372	1320	24	25	0.3	228	8.7	
91372	1334	2	25	1.5	217	7.0	CLOUDY
91372	1332	13	25	1.1	222	8.4	CALM
91372	1330	24	25	0.5	240	9.0	
91372	1405	2	25	0.9	200	5.9	PARTLY CLOUDY
91372	1403	12	25	1.1	228	8.6	CALM
91372	1400	24	25	0.4	232	9.6	
91372	1435	2	24	0.4	165	5.7	PARTLY CLOUDY
91372	1432	12	24	1.0	225	8.6	CALM
91372	1430	23	24	0.1	239	9.8	
91372	1505	2	25	0.1	6	6.1	PARTLY CLOUDY
91372	1503	13	25	0.6	220	8.3	SE WIND 1-2MPH
91372	1500	24	25	0.1	248	10.1	
91372	1535	2	25	0.0	350	6.0	PARTLY CLOUDY
91372	1533	13	25	0.0	330	9.1	SE WIND 2-3MPH

(Continued)

Table 44 (Concluded)

DATE	TIME (EDT)	DEPTH OF READING (FT)	WATER DEPTH (FT)	CURRENT SPEED (FPS)	CURRENT DIRECTION (DEGREES)	SALINITY (PPT)	REMARKS
91372	1530	24	25	0.1	20	10.1	
91372	1606	2	25	1.0	20	5.0	CLOUDY
91372	1603	13	25	0.2	2	8.8	SE WIND 2-5MPH
91372	1600	24	25	0.1	4	10.1	
91372	1635	2	24	1.6	8	5.8	CLOUDY
91372	1633	12	24	0.9	20	8.6	RAIN
91372	1630	23	24	0.3	22	9.6	
91372	1707	2	24	1.4	18	5.4	PARTLY CLOUDY
91372	1705	12	24	1.4	20	8.1	CALM
91372	1702	23	24	0.8	20	8.8	
91372	1735	2	24	2.2	12	5.2	PARTLY CLOUDY
91372	1732	12	24	1.3	26	7.1	SE WIND 2-4MPH
91372	1730	23	24	0.6	38	8.4	
91372	1834	2	22	2.3	14	4.7	PARTLY CLOUDY
91372	1832	11	22	1.9	21	5.8	S WIND 2-4MPH
91372	1830	21	22	1.9	45	7.6	CHOPPY
91372	1909	2	22	2.6	15	3.2	
91372	1907	11	22	2.1	21	5.5	
91372	1905	21	22	0.8	44	7.1	
91372	1935	2	22	2.4	15	4.1	CLEAR
91372	1932	11	22	1.6	19	5.1	S WIND 0-3MPH
91372	1930	21	22	0.8	40	6.1	
91372	2004	2	27	2.2	15	3.3	CLEAR
91372	2002	11	22	1.5	18	4.1	S WIND 0-3MPH
91372	2000	21	22	0.5	48	6.2	
91372	2049	2	22	1.5	23	2.4	CLEAR
91372	2047	11	22	1.1	30	3.8	CALM
91372	2045	20	22	0.5	80	5.8	
91372	2105	2	22	1.5	18	2.6	CLEAR
91372	2102	11	22	1.2	25	3.4	CALM
91372	2100	21	22	0.5	75	5.3	
91372	2134	2	22	1.2	18	2.2	CLEAR
91372	2132	11	22	0.5	35	3.5	CALM
91372	2130	21	22	0.2	12	5.6	
91372	2205	2	22	0.3	255	2.1	CLEAR
91372	2202	11	22	0.0	295	4.5	CALM
91372	2200	21	22	0.0	12	6.2	
91372	2234	2	23	0.3	330	2.0	CLEAR
91372	2232	12	23	0.3	265	5.2	CALM
91372	2230	22	23	0.0	255	5.7	
91372	2304	2	23	0.0	275	2.2	CLEAR
91372	2302	12	23	1.0	245	5.1	CALM
91372	2300	22	23	0.9	255	6.7	

Table 45

PROTOTYPE LONG TERM SALINITIES AT LOCAL HIGH WATER
(8 MARCH 1972 THROUGH 30 DECEMBER 1972)

		STA A2	STA B2	STA C2	STA E2	STA F2	STA G	STA H	STA I	STA J
30872	SUR	6.7	5.3	3.5	1.0	0.9	0.3	0.2	0.3	0.4
	MID	27.0	13.5	7.9	3.3	1.0	3.1	0.8	0.3	0.4
	BOT	28.9	21.0	17.2	10.2	12.7	8.3	3.4	0.4	0.4
41072	SUR	27.1	26.0	15.7	4.9	3.5	2.3	1.4	2.5	1.2
	MID	29.5	28.2	19.6	10.3	5.4	4.8	5.1	2.6	1.6
	BOT	29.6	28.4	22.5	11.5	10.6	7.3	5.1	2.6	1.7
42872	SUR	29.7	23.8	13.6	6.7	4.3	2.4	1.8	2.6	0.6
	MID	30.1	26.8	15.3	12.0	6.1	4.5	4.1	3.4	1.5
	BOT	30.1	26.9	15.8	15.1	11.2	13.6	8.4	3.4	1.8
51272	SUR	28.0	25.5	19.7	9.5	7.2	5.8	5.0	5.9	3.9
	MID	28.0	29.1	21.4	13.7	9.9	7.9	8.0	6.7	4.5
	BOT	29.9	29.1	21.7	17.2	16.1	13.8	10.1	7.2	5.4
51972	SUR	30.0	27.3	16.7	5.6	3.7	3.2	2.9	2.9	0.8
	MID	30.0	29.1	20.5	13.3	7.5	4.3	4.1	5.1	1.4
	BOT	30.1	29.3	21.5	18.2	17.0	16.4	14.7	5.5	3.2
60672	SUR	30.6	28.5	20.3	4.0	1.4	1.7	0.8	2.2	0.4
	MID	30.8	30.3	26.5	10.2	4.1	2.6	1.1	2.3	0.6
	BOT	30.9	30.4	26.5	21.0	9.7	7.5	6.4	2.4	0.7
62472	SUR	32.9	27.0	16.4	6.6	6.0	4.6	2.1	3.6	2.1
	MID	32.9	29.7	19.7	10.0	8.9	5.8	6.8	6.1	2.5
	BOT	33.0	31.4	20.2	20.3	18.2	14.2	13.7	7.7	4.4
70572	SUR	31.0	29.2	15.9	1.7	0.9	1.4	0.4	0.2	0.1
	MID	31.1	30.5	23.7	5.5	4.7	2.3	0.5	0.2	0.1
	BOT	31.6	30.7	24.3	6.7	5.8	4.0	1.4	0.2	0.1
71472	SUR	28.7	23.0	9.0	1.1	1.1	0.2	0.3	0.3	0.2
	MID	30.4	26.4	9.1	4.2	2.1	0.5	0.3	0.3	0.2
	BOT	30.6	26.5	9.1	9.7	7.9	1.8	0.3	0.3	0.3
72772	SUR	30.4	28.3	16.4	8.3	4.3	4.5	1.8	3.2	1.0
	MID	30.8	28.4	17.4	9.4	7.0	5.1	6.7	3.9	1.6
	BOT	30.8	28.4	17.5	15.8	14.3	11.7	6.8	3.9	2.1
	49			2						
	BOT	31.4	30.9	25.0	13.7	12.9	9.7	13.3	6.5	4.0
81572	SUR	31.4	29.8	19.4	8.4	8.0	6.0	2.2	5.0	2.4
	MID	31.8	31.4	27.2	14.1	11.3	8.1	9.3	7.9	4.9
	BOT	32.0	31.7	27.6	15.0	15.2	11.0	11.9	8.0	6.1
82672	SUR	31.6	29.6	25.5	12.8	12.3	10.5	5.6	9.2	7.2
	MID	32.0	31.2	27.0	18.9	16.1	11.5	13.5	9.7	8.1
	BOT	32.4	31.6	27.2	19.5	17.6	15.9	14.1	9.7	8.2
90572	SUR	32.2	29.7	23.6	13.7	12.3	10.5	7.9	10.2	8.2
	MID	32.5	31.2	24.9	17.5	15.4	14.0	16.5	11.9	9.7
	BOT	32.8	31.5	25.8	18.3	18.5	17.4	17.0	12.0	10.3

(Continued)

Table 45 (Concluded)

91372	SUR	30.1	27.4	19.7	11.1	8.9	9.4	6.4	8.5	6.1
	MID	30.1	29.5	21.9	16.4	14.3	11.8	14.5	10.5	8.4
	BOT	30.3	29.5	23.1	17.1	16.4	15.7	14.5	11.0	9.4
92272	SUR	30.4	30.4	24.8	15.1	13.8	13.0	10.6	13.0	10.3
	MID	30.5	30.4	25.8	20.3	16.9	15.9	14.2	13.7	11.6
	BOT	30.5	30.5	26.4	21.5	20.1	19.5	15.1	13.7	11.7
92872	SUR	30.2	29.1	24.8	16.0	10.7	9.1	7.4	9.1	6.8
	MID	30.2	30.3	26.7	18.5	14.7	12.6	14.2	10.1	8.2
	BOT	30.2	30.5	27.2	19.2	16.7	15.5	14.2	10.1	8.3
100972	SUR	31.6	29.8	22.6	15.0	11.0	11.0	8.3	11.0	6.1
	MID	31.7	30.6	25.3	18.5	15.5	14.7	16.6	12.3	9.4
	BOT	32.4	30.7	25.4	19.2	18.7	18.3	16.7	12.4	9.9
101672	SUR	31.1	28.4	19.9	12.4	9.5	9.7	6.8	9.3	8.0
	MID	31.1	29.4	22.7	20.4	14.9	12.5	16.4	9.8	9.8
	BOT	31.2	29.6	22.7	22.7	21.9	21.0	19.5	14.9	11.7
102872	SUR	30.8	28.2	21.7	15.0	12.2	12.1	8.4	11.5	8.2
	MID	31.2	30.3	24.0	18.8	14.7	13.8	13.6	11.7	10.2
	BOT	31.6	30.3	24.1	19.2	18.2	16.8	16.4	11.8	10.4
110872	SUR	30.9	ND	22.1	16.8	12.9	15.1	10.4	12.1	9.8
	MID	31.2	ND	22.1	18.1	15.1	15.8	15.0	14.1	11.0
	BOT	31.3	ND	23.2	22.5	21.8	21.0	20.0	14.1	11.6
111572	SUR	33.7	28.3	22.7	10.3	8.8	9.4	6.6	7.9	5.4
	MID	33.7	32.7	25.3	18.7	11.9	10.2	12.8	9.0	6.3
	BOT	33.7	32.9	25.7	18.9	16.9	15.8	13.0	9.1	6.6
112272	SUR	32.4	31.7	31.1	18.2	10.3	10.7	8.4	9.0	5.1
	MID	33.1	32.1	31.3	24.9	16.6	14.0	9.7	10.8	8.0
	BOT	33.5	32.4	31.3	27.2	19.5	15.5	14.7	10.8	8.9
120472	SUR	33.6	30.7	19.9	4.6	3.6	3.8	2.4	3.0	1.5
	MID	33.9	33.3	28.6	11.9	7.1	6.7	7.5	4.0	1.8
	BOT	34.4	33.4	29.0	19.5	10.5	9.7	8.7	4.1	2.0
121272	SUR	32.7	22.3	18.9	5.1	2.2	2.9	0.9	1.5	0.8
	MID	33.1	30.7	21.2	13.2	5.3	5.4	9.8	4.9	1.2
	BOT	33.1	31.1	21.9	22.5	18.0	14.6	10.4	5.2	2.0
122272	SUR	30.9	27.5	17.3	4.1	2.9	2.5	0.9	2.0	0.7
	MID	31.8	31.5	27.4	11.4	7.3	4.0	2.7	2.2	0.7
	BOT	32.3	31.6	27.5	12.4	10.4	8.8	6.9	2.2	0.7
123072	SUR	7.3	5.4	3.1	0.2	0.1	0.1	0.1	0.1	0.1
	MID	31.3	19.3	8.1	2.3	0.5	0.1	0.1	0.1	0.1
	BOT	32.0	24.1	21.0	15.0	15.7	7.0	0.1	0.1	0.1

Table 46

Shoaling Verification								
	Prototype Shoaling			Model Shoaling			Difference	
		Percent			Percent		Percent	
Shoaling Section (See Plate)	cu yd	Bay	Harbor	cc	Bay	Harbor	Bay	Harbor
8	7,200	0.8		0	0.0		-0.8	
9	7,700	0.8		0	0.0		-0.8	
10	23,500	2.5		5	0.4		-2.1	
11	27,400	2.9		10	0.7		-2.2	
12	31,900	3.4		18	1.3		-2.1	
13	22,200	2.4		10	0.7		-1.7	
14	5,400	0.6		13	0.9		+0.3	
15	48,300	5.2		10	0.7		-4.5	
16	19,600	2.1		15	1.1		-1.0	
17	71,100	7.6		15	1.1		-6.5	
18	18,700	2.0		20	1.4		-0.6	
19	25,800	2.8		28	2.0		-0.8	
20	177,800	19.0		235	16.6		-2.4	
21	203,300	21.7		425	30.0		+8.3	
22	216,000	23.1		340	24.0		+0.9	
23	19,000	2.0		100	7.1		+5.1	
24	3,900	0.4		40	2.8		+2.4	
25	6,200	0.7		35	2.5		+1.8	
26	0	0.0		50	3.5		+3.5	
27	0	0.0		45	3.2		+3.2	
Bay Total	935,000	100.0		1414	100.0			
28	81,600		6.2	75		5.2		-1.0
29	96,100		7.2	255		17.7		+10.5
30	130,800		9.9	215		14.9		+5.0
31	114,200		8.6	120		8.4		-0.2
32	37,100		2.8	82		5.7		+2.9
33	100,700		8.6	50		3.5		-5.1
34	141,500		10.7	110		7.7		-3.0
35	158,500		12.0	85		5.9		-6.1
36	229,300		17.3	310		21.6		+4.3
37	214,000		16.2	125		8.7		-7.5
38	19,300		1.5	10		0.7		-0.8
39-44	0		0.0	0		0.0		0.0
Harbor Total	1,323,400		100.0	1437		100.0		

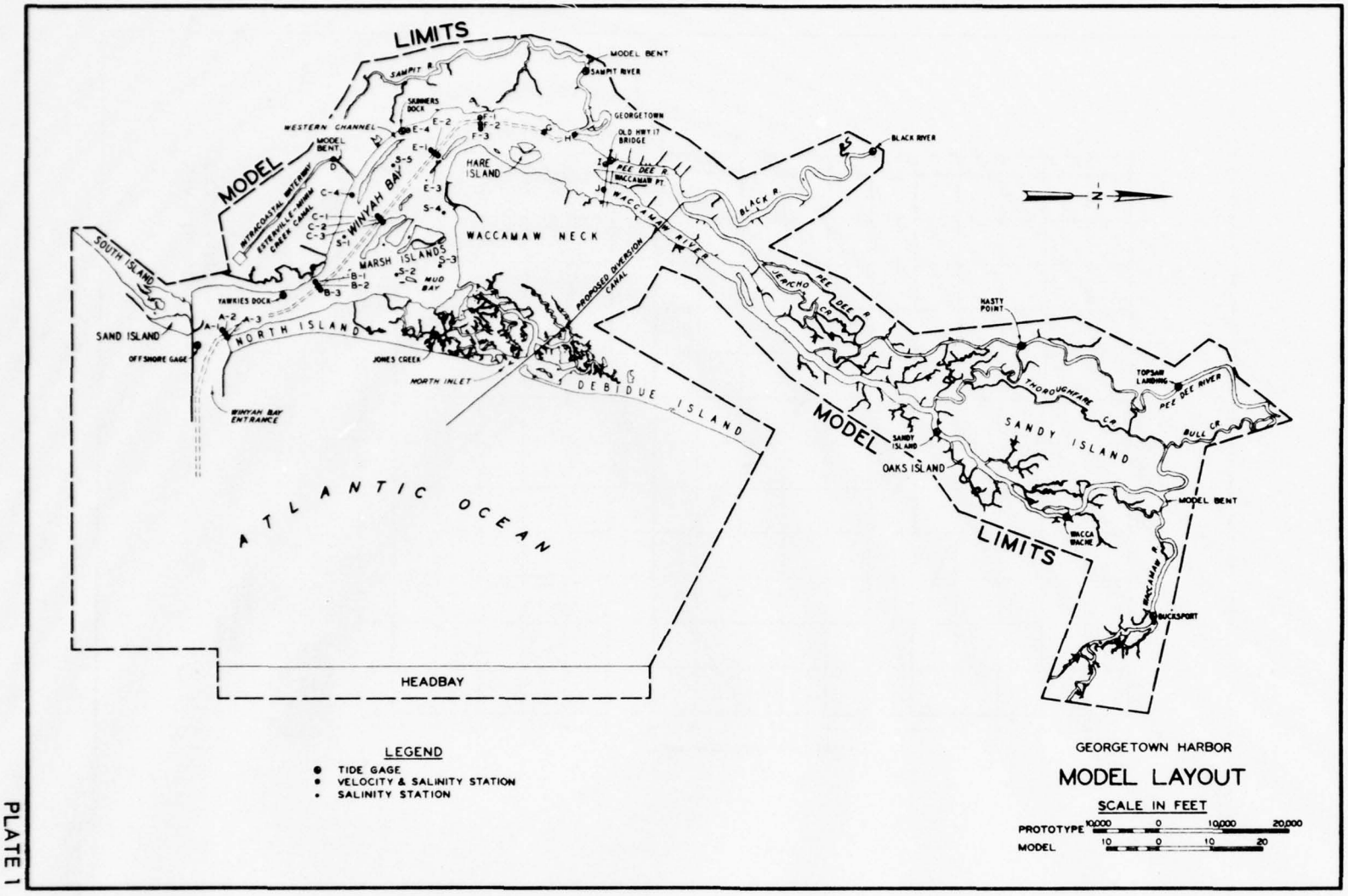

LIMITS
MODEL
MODEL BENT
SAMPIT RIVER
SAMPIT R.
SKINNERS DOCK
WESTERN CHANNEL
MODEL BENT
INTRACOASTAL WATERWAY
ESTHERVILLE-WINYAH CREEK CANAL
WINYAH BAY
HARE ISLAND
GEORGETOWN
OLD HWY 17 BRIDGE
PEE DEE R.
WACCAMAW PT.
WACCAMAW RIVER
BLACK R.
BLACK RIVER
WACCAMAW NECK
MARSH ISLANDS
MUD BAY
SOUTH ISLAND
YAWKIES DOCK
SAND ISLAND
OFFSHORE GAGE
NORTH ISLAND
JONES CREEK
NORTH INLET
WINYAH BAY ENTRANCE
PROPOSED DIVERSION CANAL
DEBIDUE ISLAND
ATLANTIC OCEAN
HEADBAY
JERICHO
PEE DEE R.
CO
NASTY POINT
THOROUGHFARE
TOPSAIL LANDING
PEE DEE RIVER
SANDY ISLAND
BULL CR.
SANDY ISLAND
OAKS ISLAND
MODEL BENT
MODEL
LIMITS
WACCA WACHE
WACCAMAW R.
GEORGETOWN
N
LEGEND
TIDE GAGE
VELOCITY & SALINITY STATION
SALINITY STATION
GEORGETOWN HARBOR
MODEL LAYOUT
SCALE IN FEET
PROTOTYPE 10,000 0 10,000 20,000
MODEL 10 0 10 20

PLATE 1

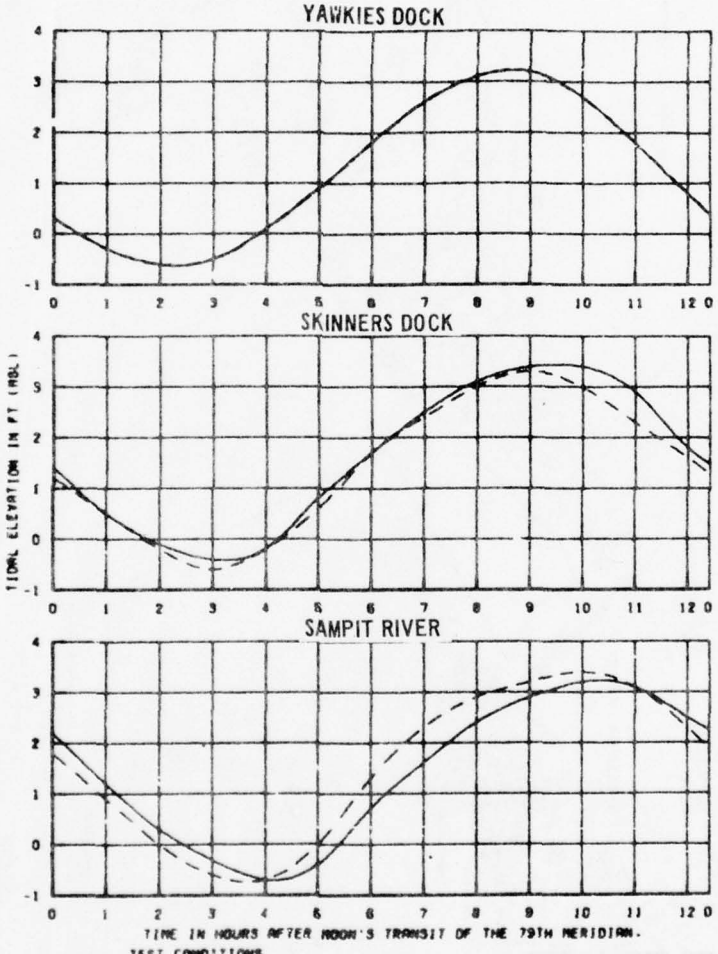
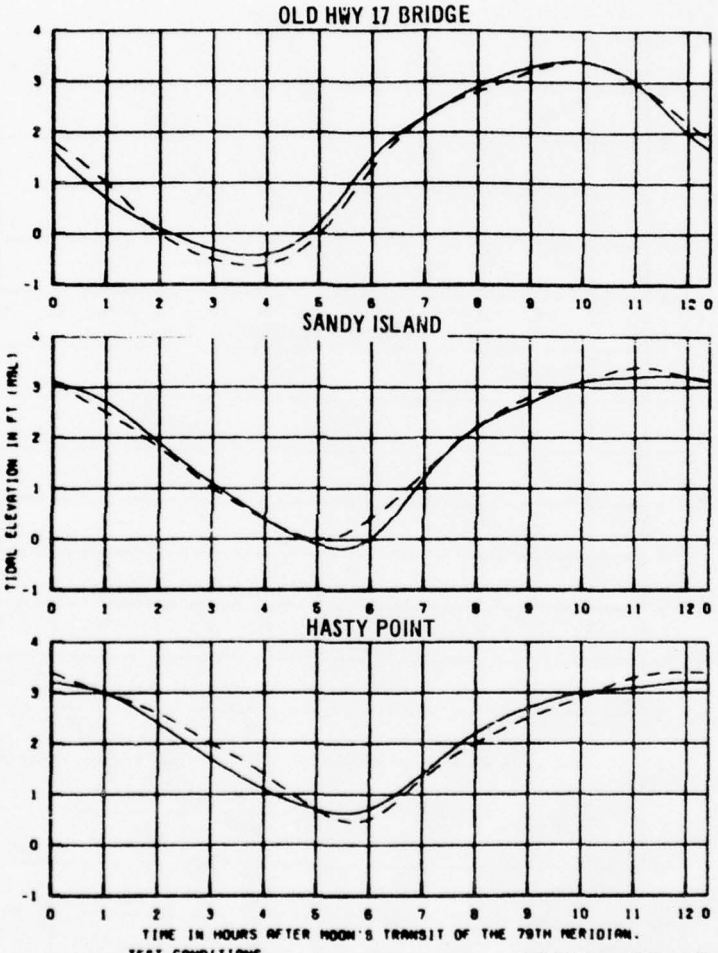

YAWKIES DOCK
SKINNERS DOCK
SAMPIT RIVER
TIDAL ELEVATION IN FT (MSL)
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YAWKIES DOCK 3.85 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 438 CFS
BLACK RIVER INFLOW 429 CFS
PEE DEE RIVER FLOW 11865 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
MEAN INFLOW
VERIFICATION OF
TIDAL HEIGHTS
STATIONS
YAWKIES DOCK
SKINNERS DOCK
SAMPIT RIVER

PLATE 2



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	430 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

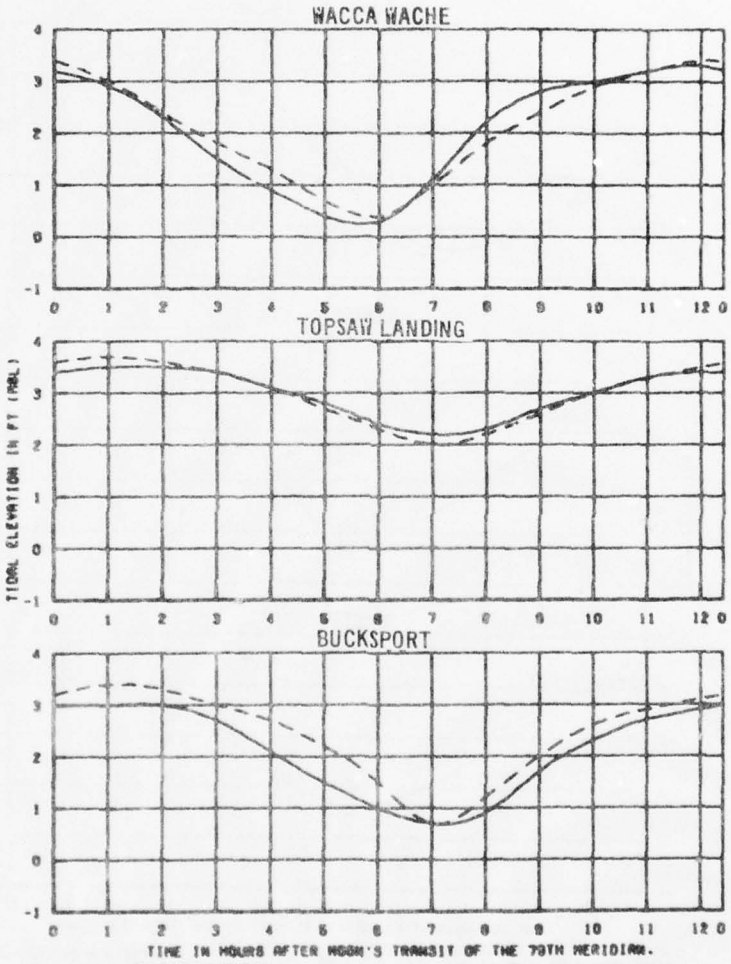
GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF
TIDAL HEIGHTS

LEGEND
PROTOTYPE ——
MODEL – – –

STATIONS
OLD HWY 17 BRIDGE
SANDY ISLAND
HASTY POINT

PLATE 3



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	5.06 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	428 CFS
PEE DEE RIVER INFLOW	11865 CFS

GEORGETOWN HARBOR MODEL
MEAN INFLOW

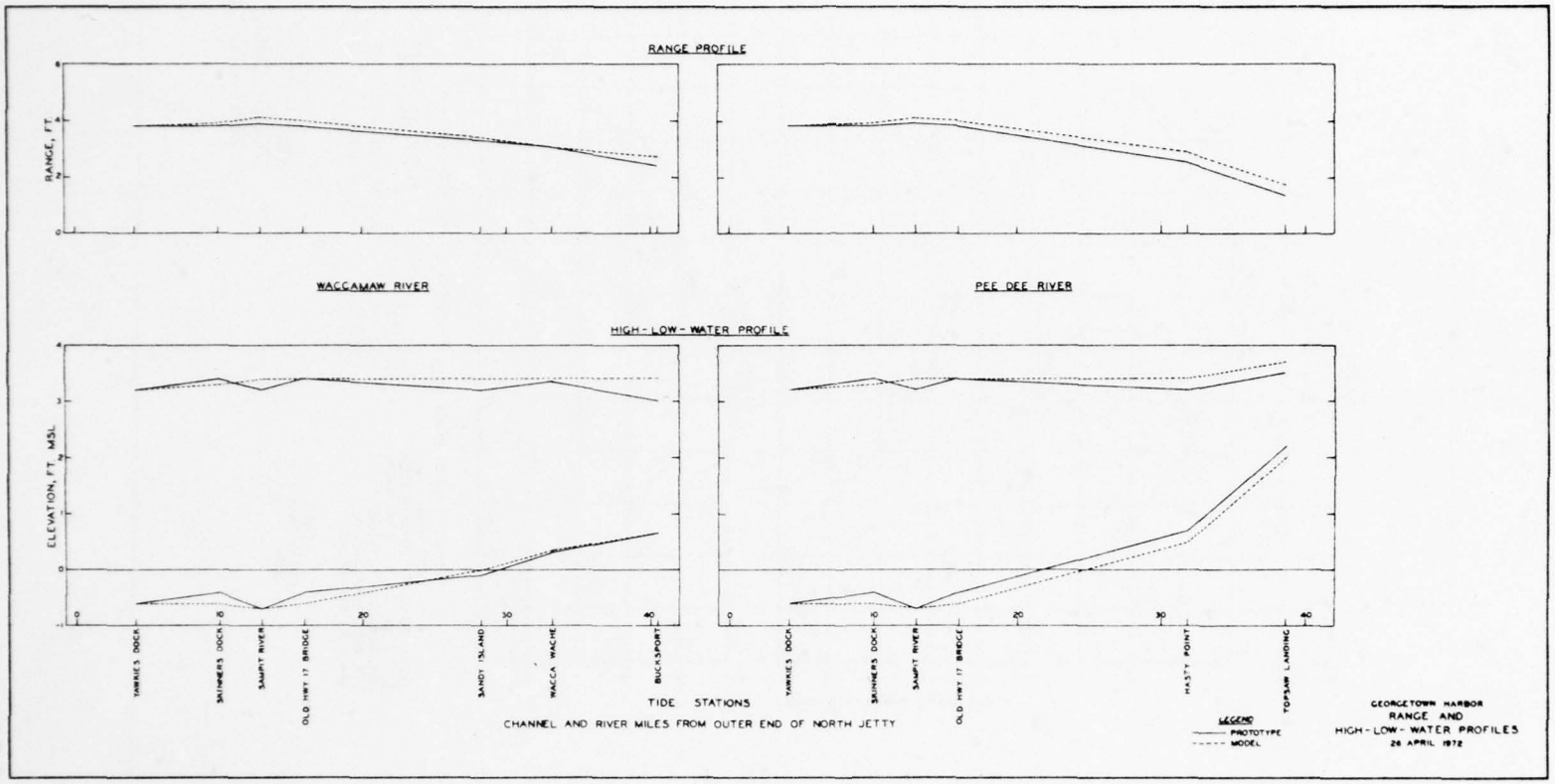
VERIFICATION OF
TIDAL HEIGHTS

LEGEND
PROTOTYPE ———
MODEL – – –

STATIONS
WACCA WACHE
TOPSAW LANDING
BUCKSPORT

PLATE 4

PLATE 5


RANGE PROFILE
RANGE, FT.
WACCAMAW RIVER
PEE DEE RIVER
HIGH-LOW-WATER PROFILE
ELEVATION, FT. MSL
TARRIES DOCK
SKINNERS DOCK
SAMPIT RIVER
OLD HWY 17 BRIDGE
SANDY ISLAND
WACCA WACHEE
BUCKSPORT
HASTY POINT
TOPSAIL LANDING
TIDE STATIONS
CHANNEL AND RIVER MILES FROM OUTER END OF NORTH JETTY
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR
RANGE AND
HIGH-LOW-WATER PROFILES
28 APRIL 1972

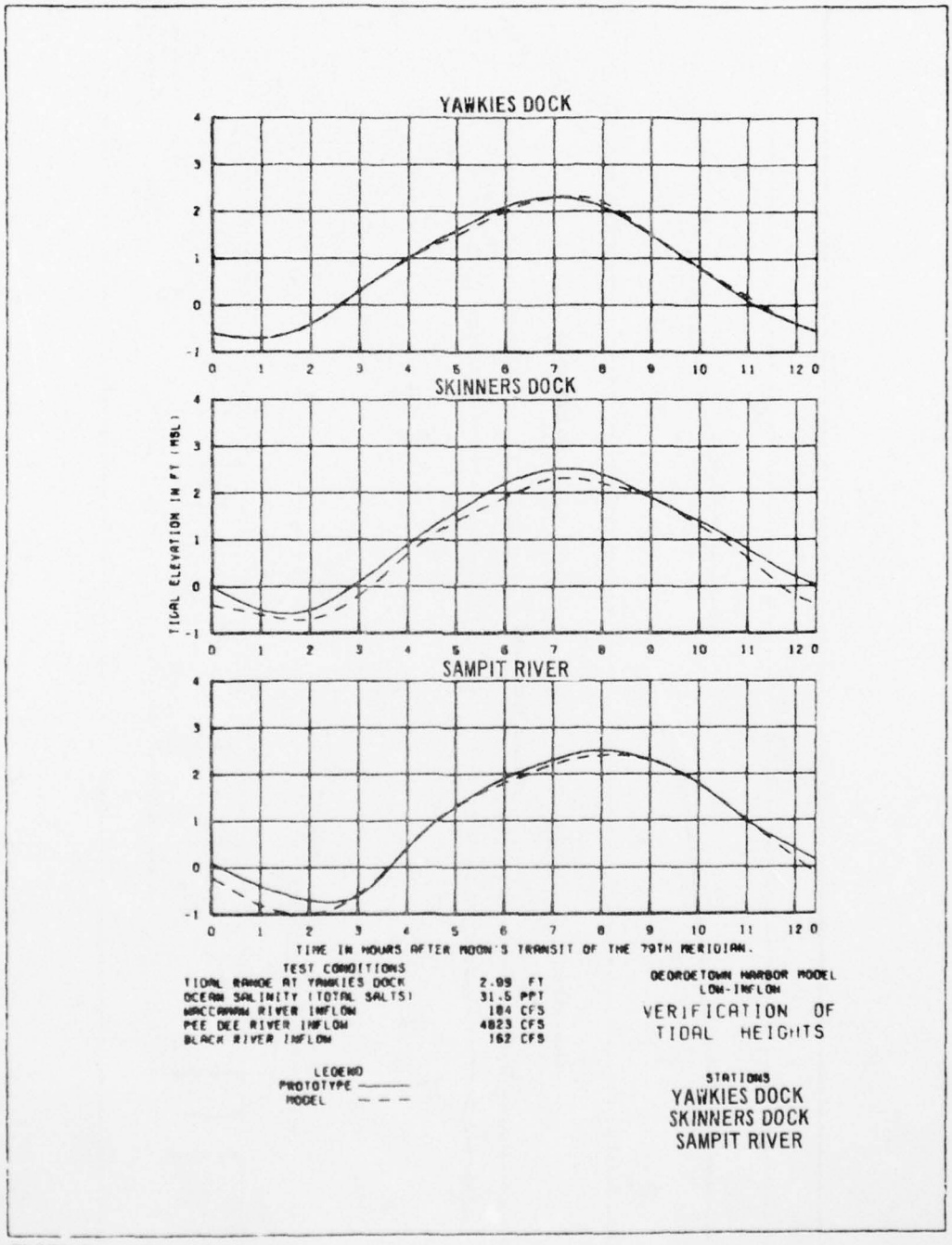
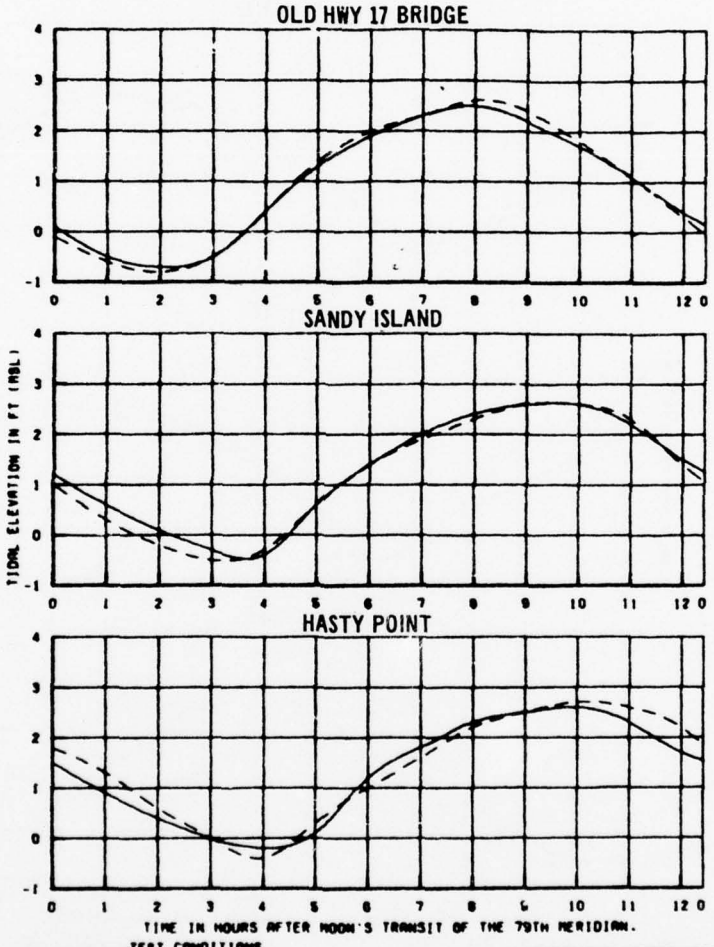

YAWKIES DOCK
SKINNERS DOCK
SAMPIT RIVER
TIDAL ELEVATION IN FT (MSL)
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YAWKIES DOCK 2.09 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF
TIDAL HEIGHTS
STATIONS
YAWKIES DOCK
SKINNERS DOCK
SAMPIT RIVER

PLATE 6



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

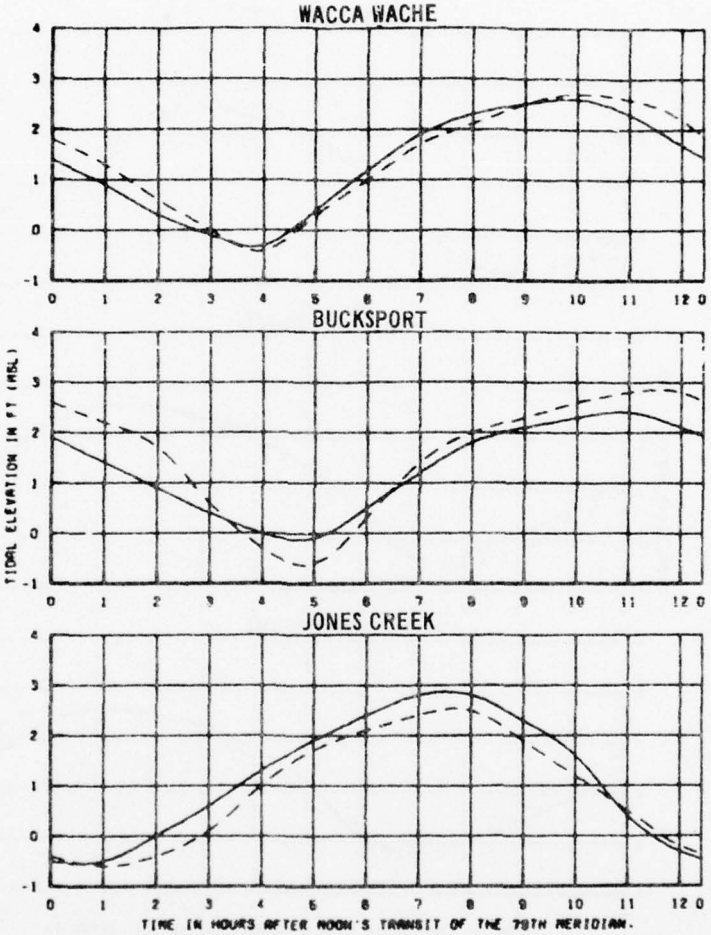
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF
TIDAL HEIGHTS

STATIONS
OLD HWY 17 BRIDGE
SANDY ISLAND
HASTY POINT

PLATE 7



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF TIDAL HEIGHTS

STATIONS
WACCA WACHE
BUCKSPORT
JONES CREEK

PLATE 8

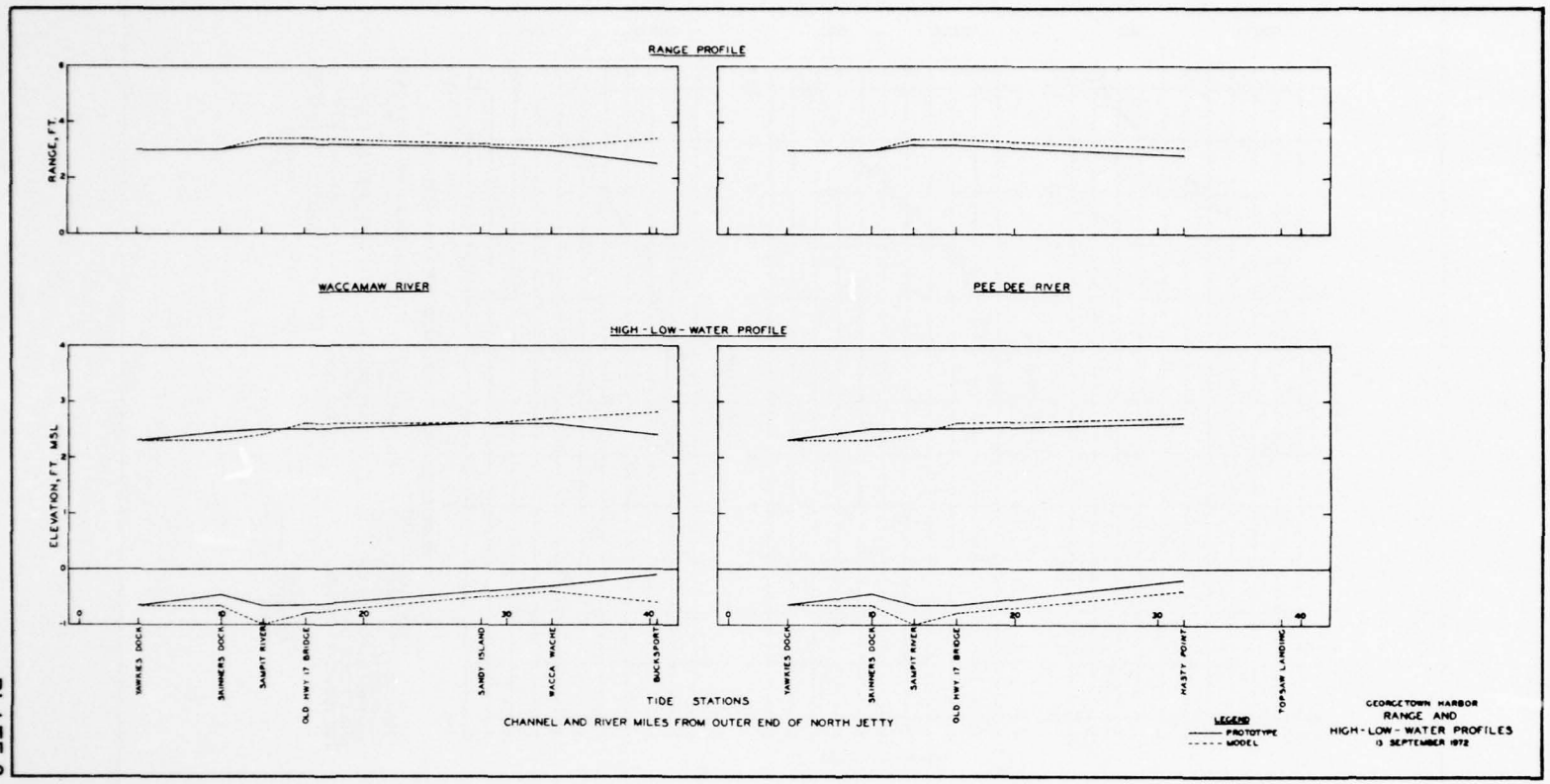

RANGE PROFILE
RANGE, FT.
WACCAMAW RIVER
PEE DEE RIVER
HIGH - LOW - WATER PROFILE
ELEVATION, FT. MSL
SHIPYARD DOCK
SKINNERS DOCK
SAMPIT RIVER
OLD HWY 17 BRIDGE
SANDY ISLAND
WACCA WACHE
BUCKSPORT
TAMPIES DOCK
SKINNERS DOCK
SAMPIT RIVER
OLD HWY 17 BRIDGE
HASTY POINT
TOPSAW LANDING
TIDE STATIONS
CHANNEL AND RIVER MILES FROM OUTER END OF NORTH JETTY
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR
RANGE AND
HIGH - LOW - WATER PROFILES
13 SEPTEMBER 1972

PLATE 9

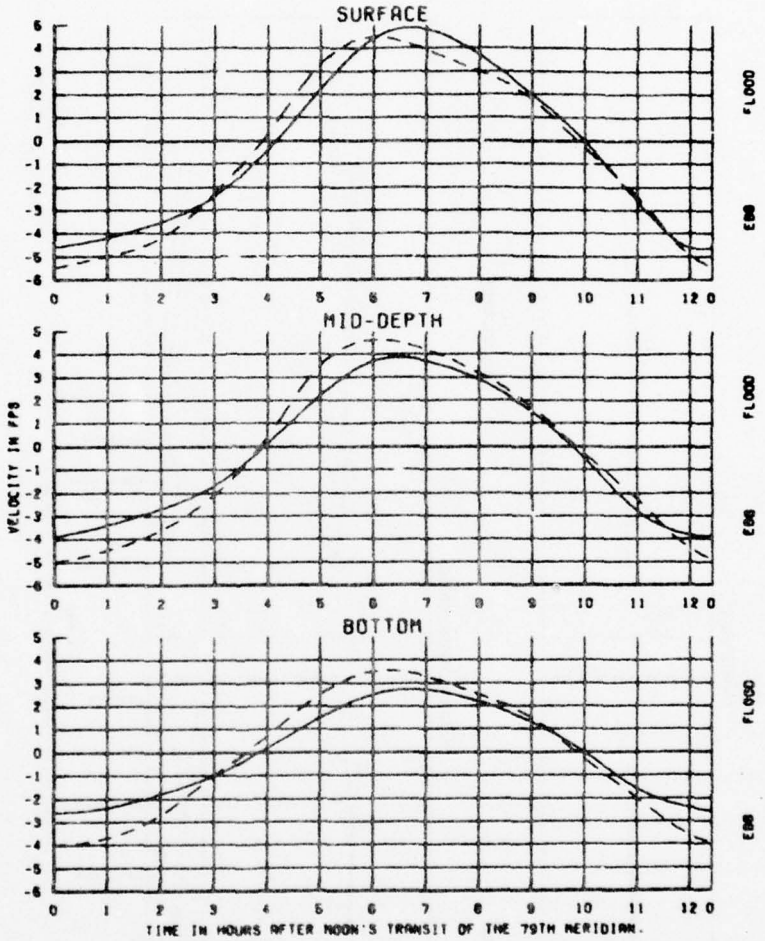
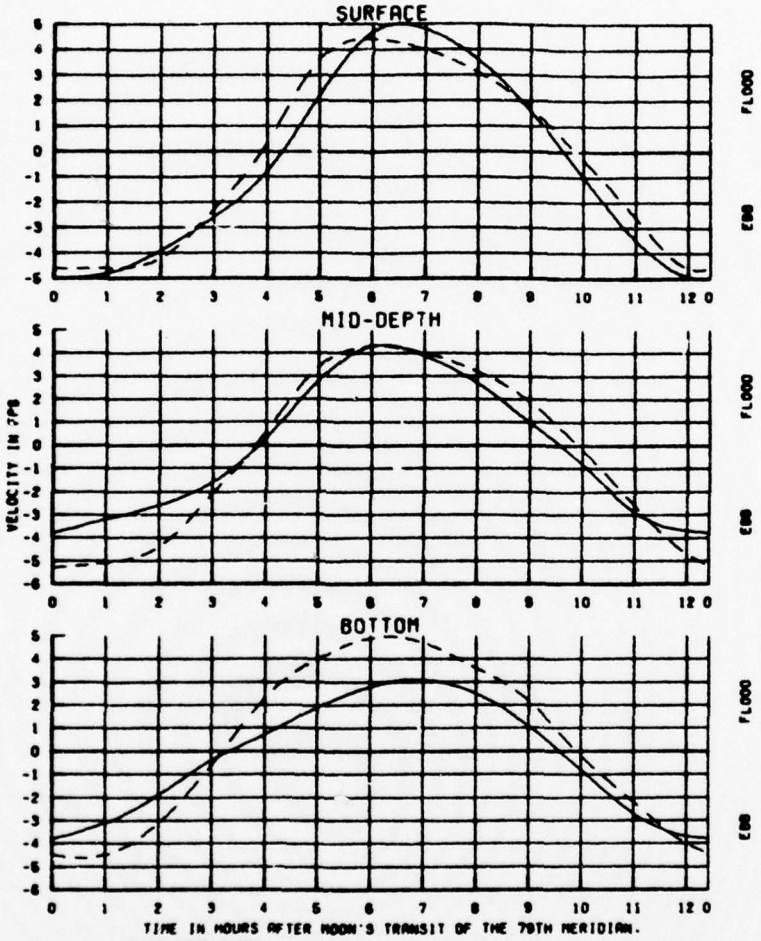

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER NOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YAMKIES DOCK 3.86 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 438 CFS
BLACK RIVER INFLOW 429 CFS
PEE DEE RIVER INFLOW 11866 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
MEAN INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION
A1

PLATE 10



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	430 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

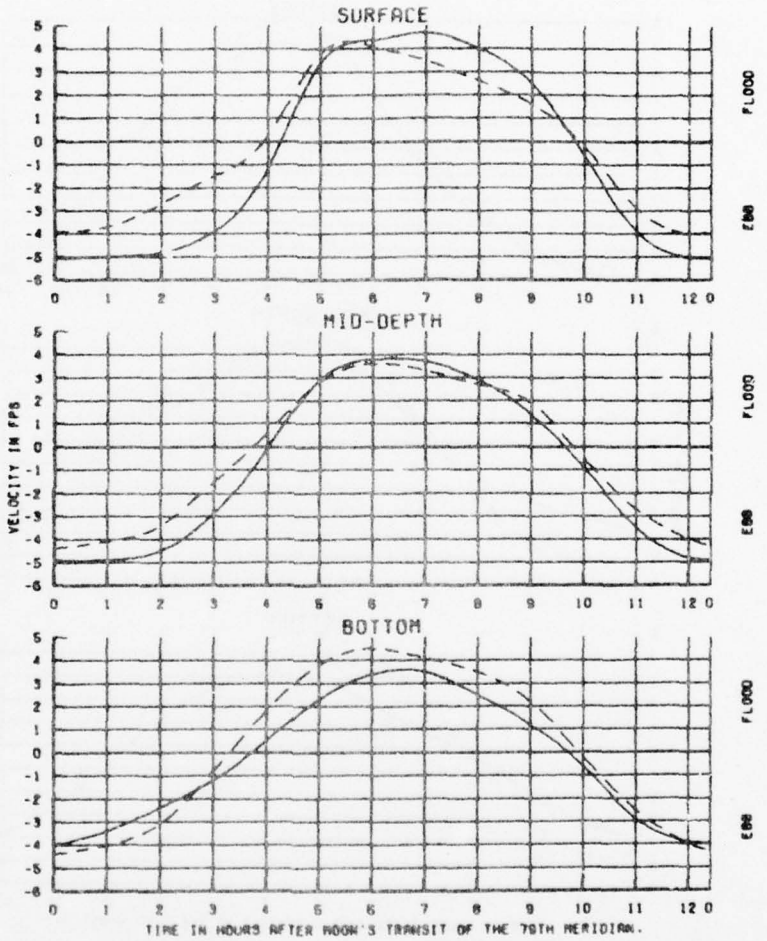
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
A2

PLATE 11



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	5.65 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	459 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11065 CFS

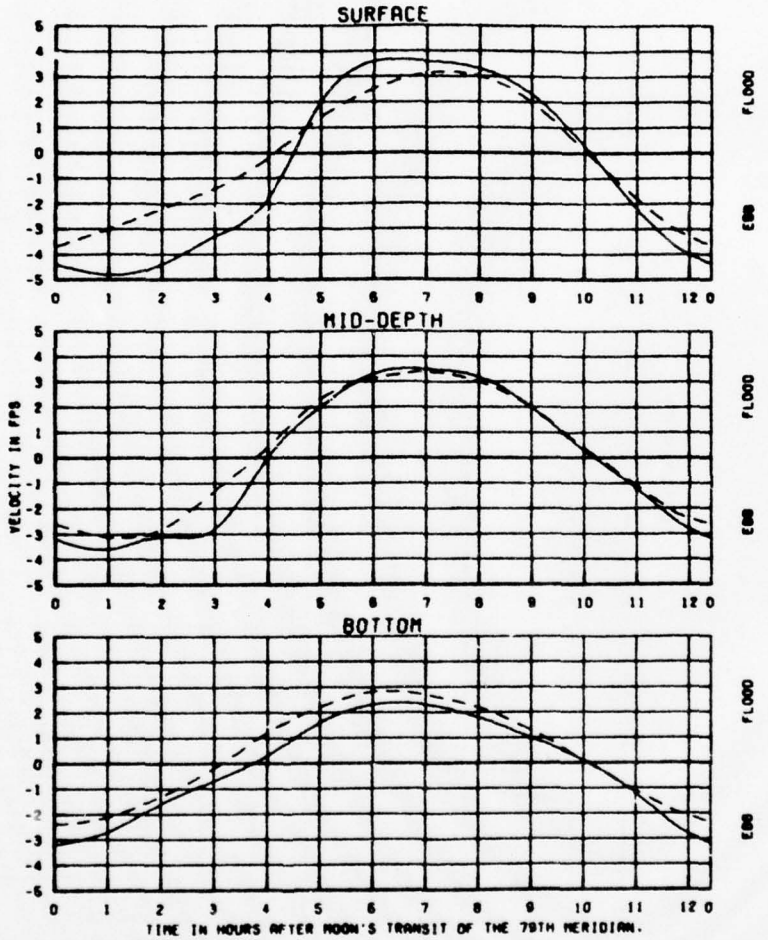
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION A3

PLATE 12



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.86 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	430 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11065 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
81

PLATE 13

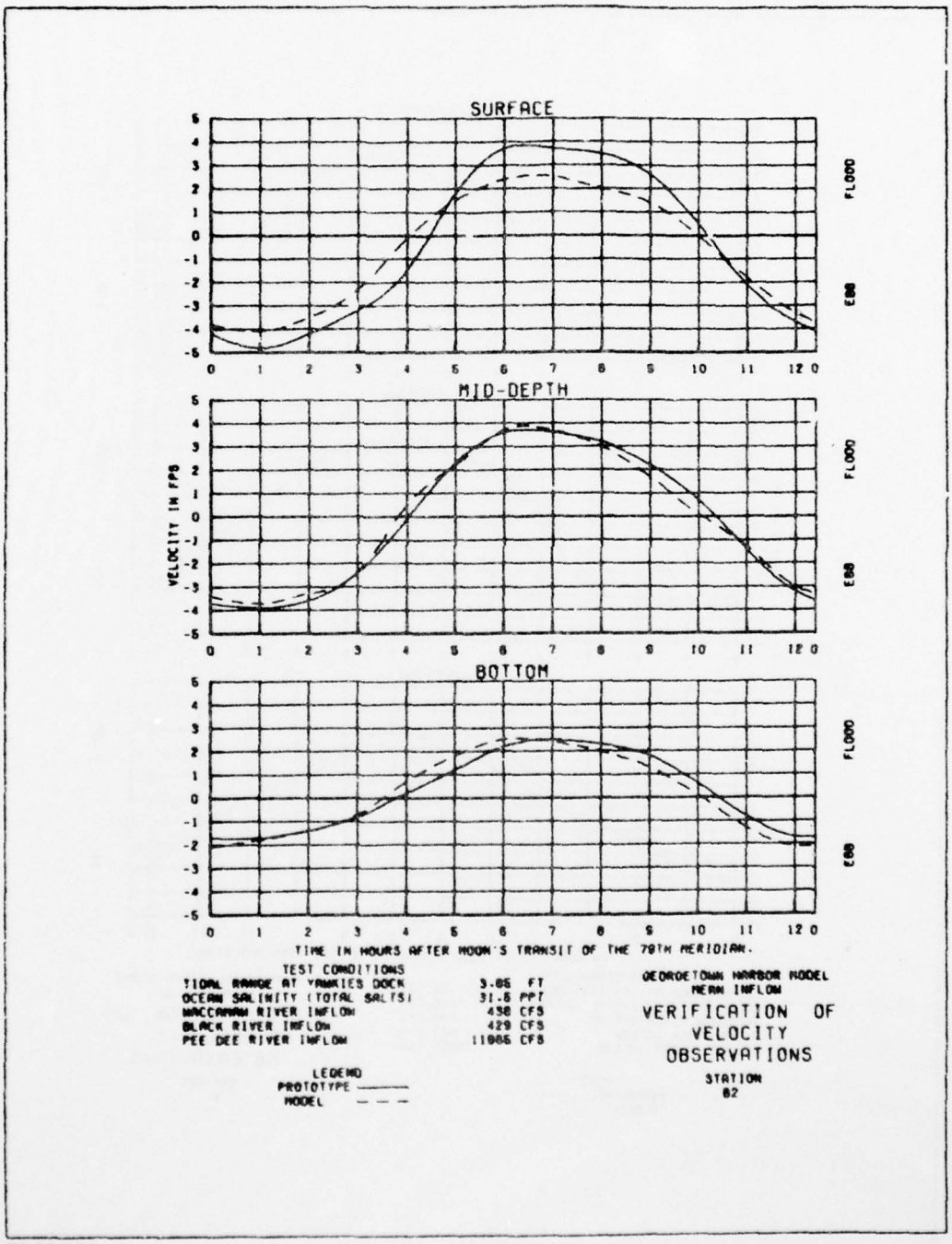
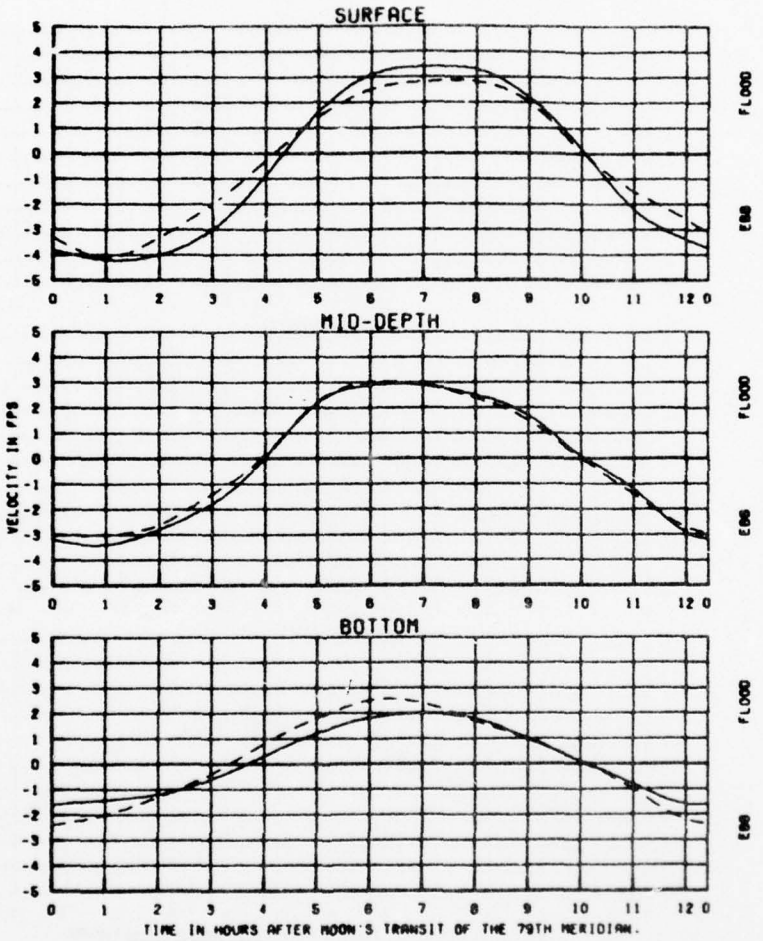

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 3.85 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 458 CFS
BLACK RIVER INFLOW 429 CFS
PEE DEE RIVER INFLOW 11985 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
MEAN INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION
82

PLATE 14



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	9.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	458 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11065 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
83

PLATE 15

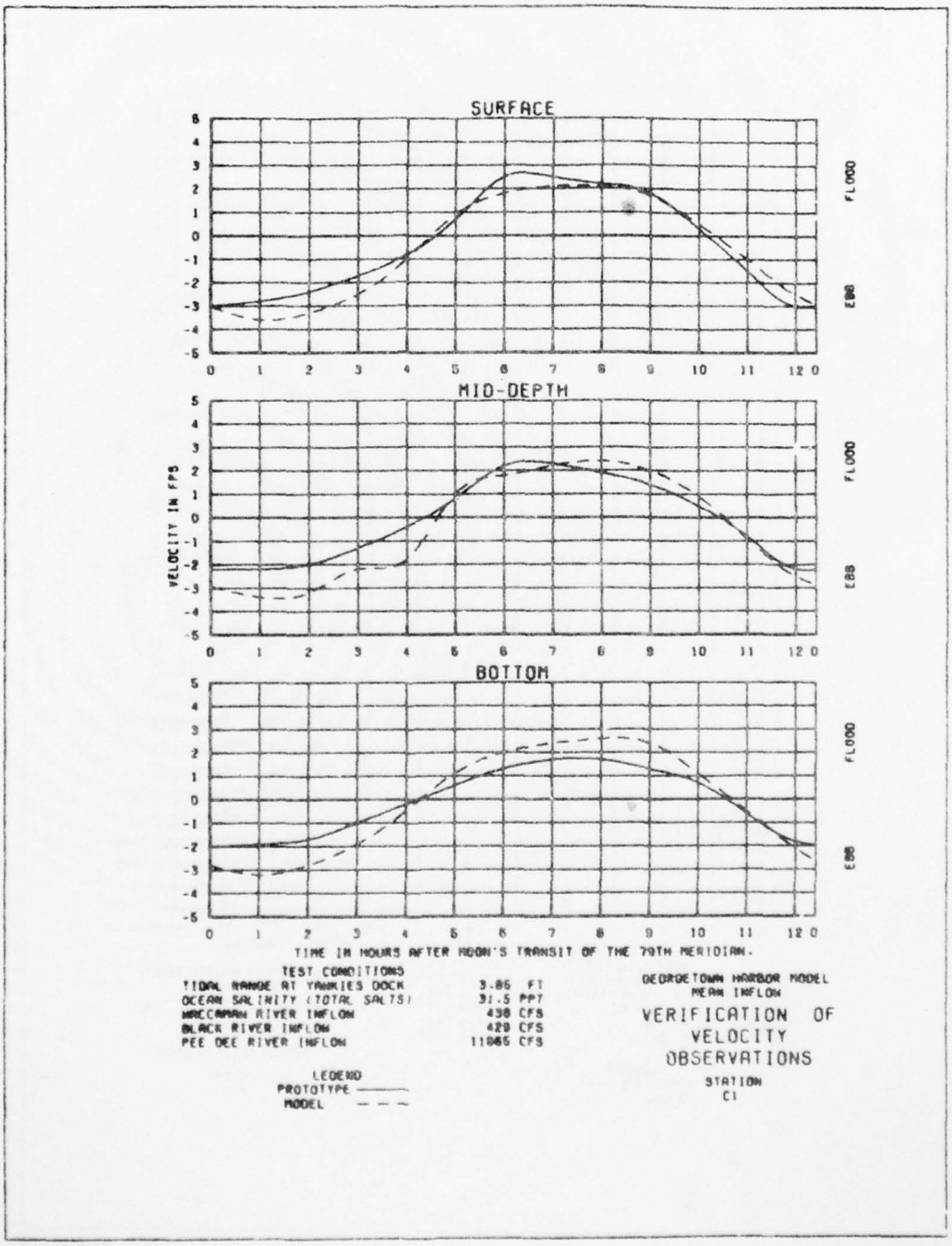
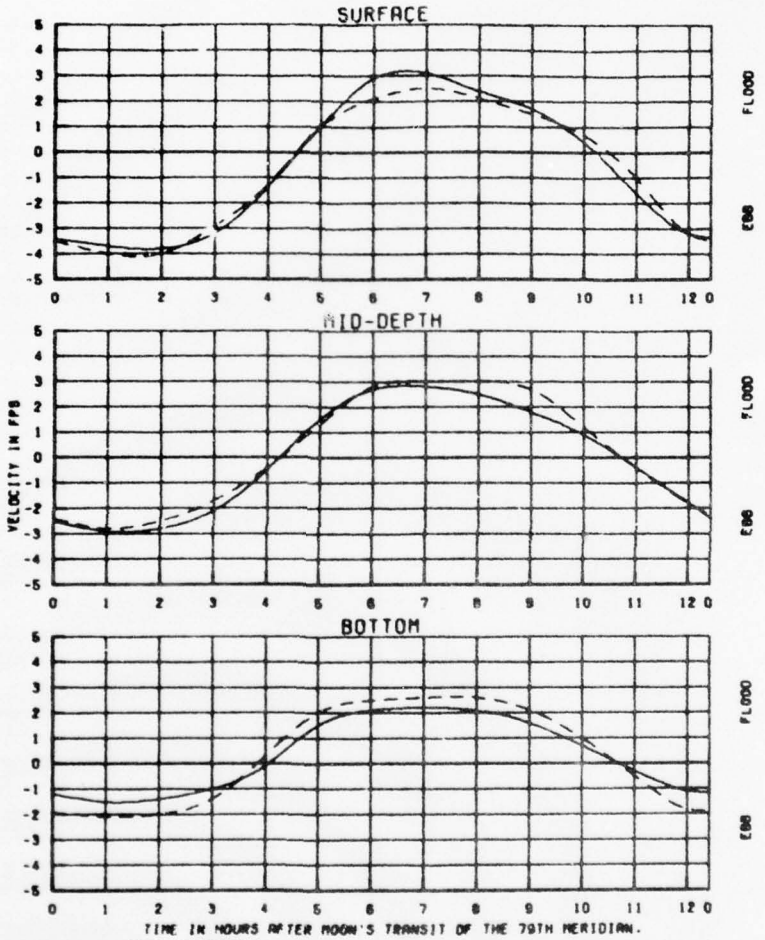

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 3.86 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 438 CFS
BLACK RIVER INFLOW 428 CFS
PEE DEE RIVER INFLOW 11865 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
MEAN INFLOW
VERIFICATION OF
VELOCITY
OBSERVATIONS
STATION
C1

PLATE 16



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

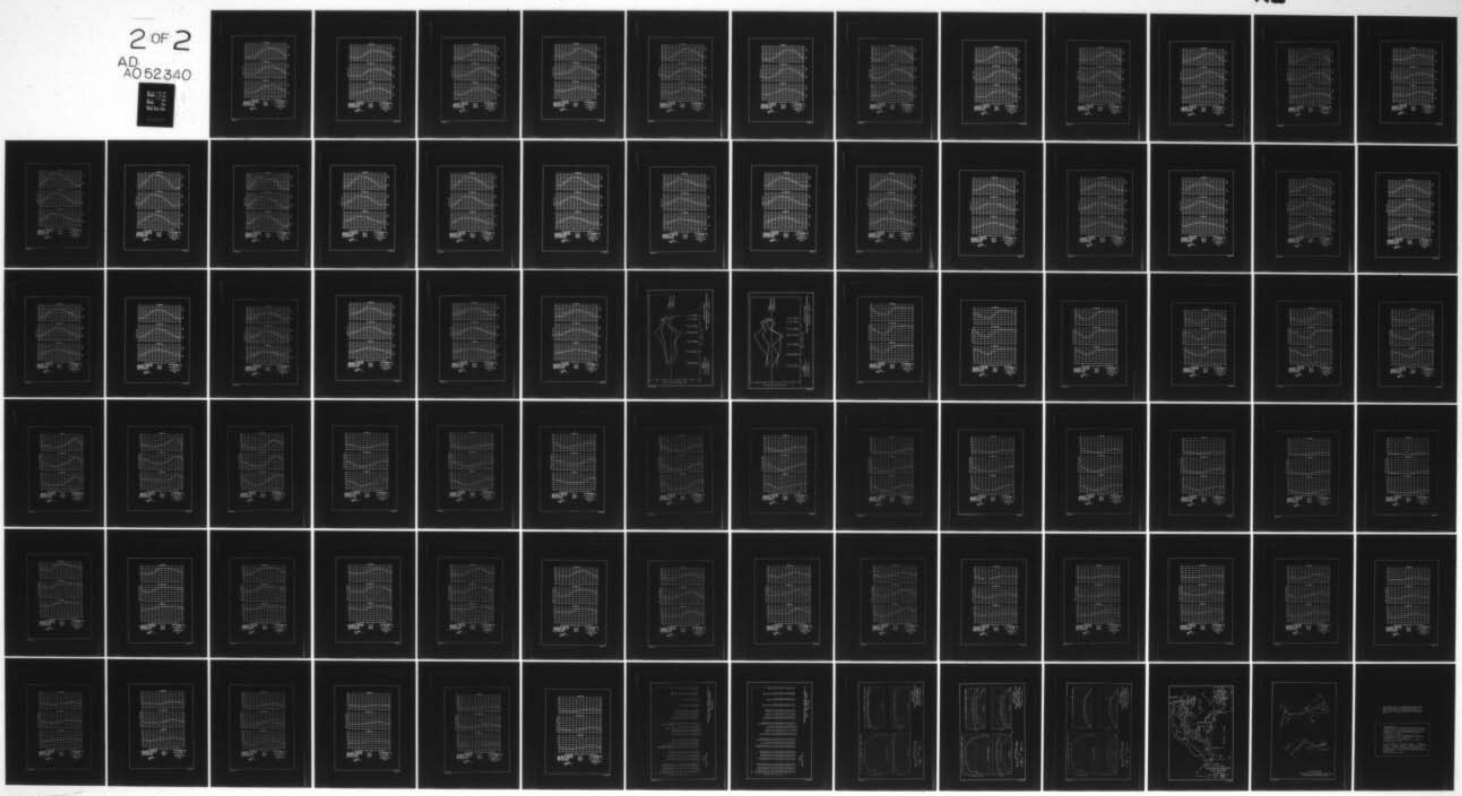
STATION
C2

PLATE 17

AD-A052 340 ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MISS F/G 8/8
GEORGETOWN HARBOR, SOUTH CAROLINA. REPORT 1. HYDRAULIC, SALINIT--ETC(U)
FEB 78 M J TRAWLE

UNCLASSIFIED WES-MP-H-78-6 NL

2 OF 2
AD
A052340



END
DATE
FILMED
5-78
DDC

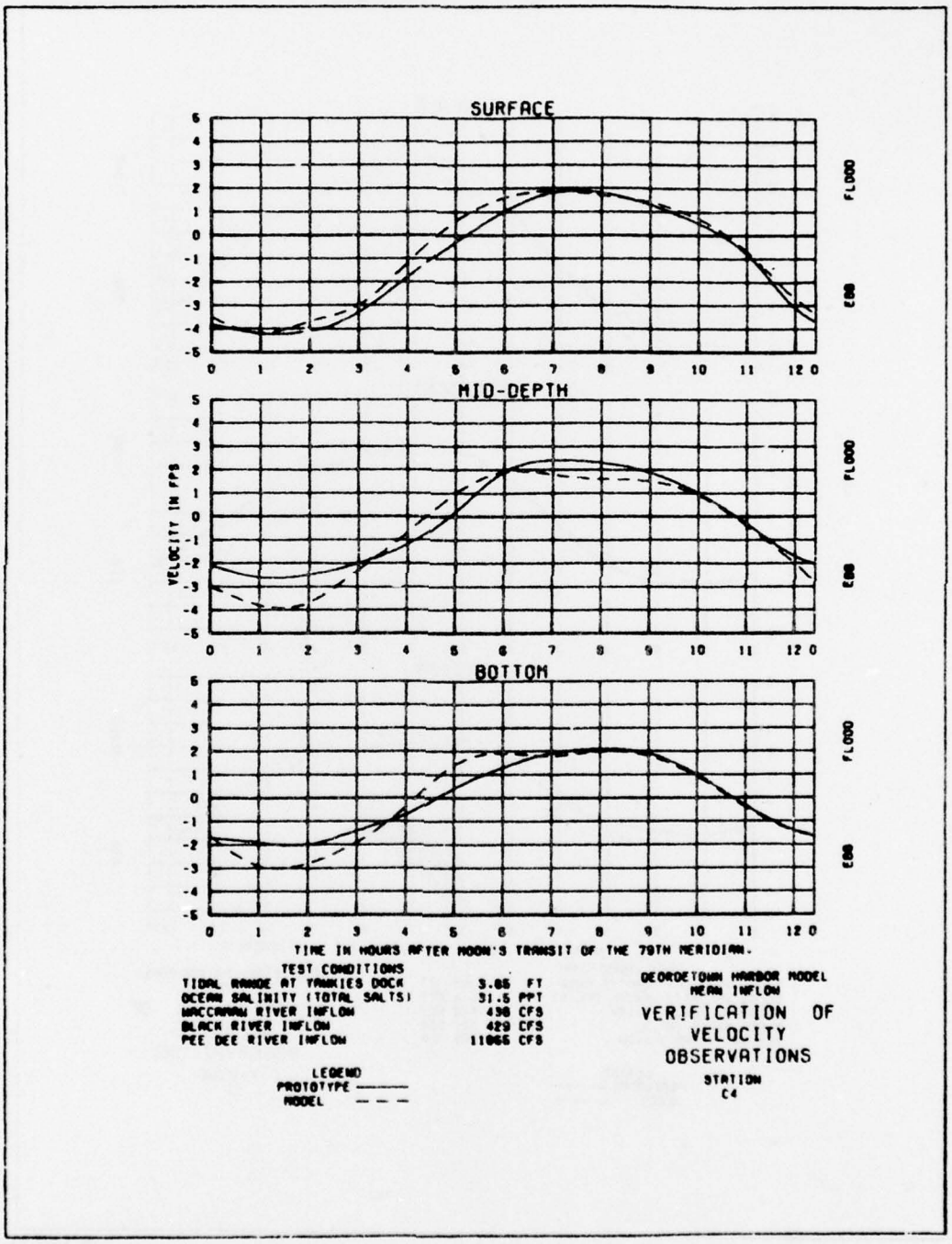

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 3.85 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 438 CFS
BLACK RIVER INFLOW 429 CFS
PEE DEE RIVER INFLOW 11865 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
MEAN INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION
C4

PLATE 18

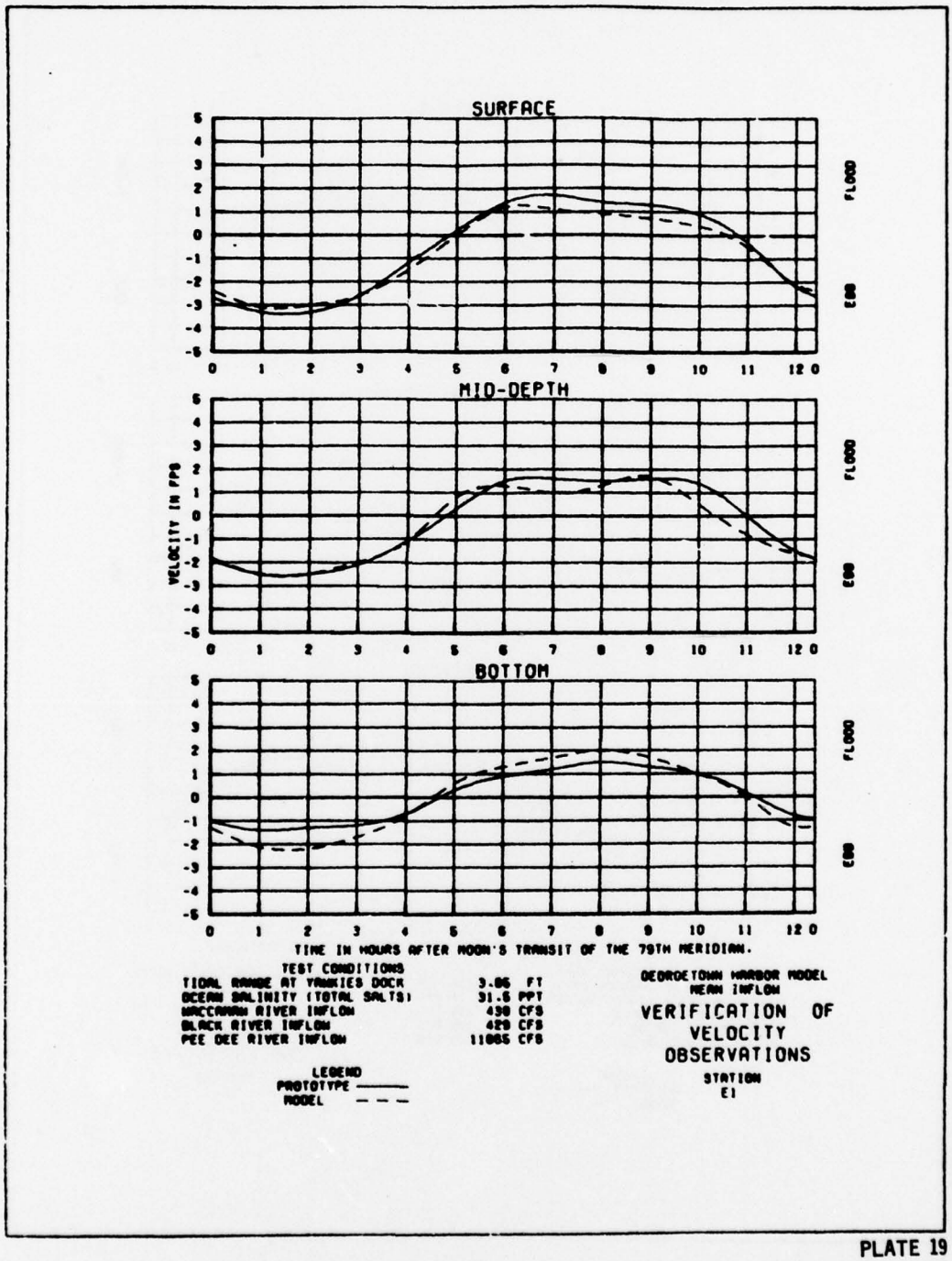

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 3.06 FT
OCEAN SALINITY (TOTAL SALTS) 31.6 PPT
WACCAMAW RIVER INFLOW 490 CFS
BLACK RIVER INFLOW 420 CFS
PEE DEE RIVER INFLOW 11065 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
MEAN INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION
E1

PLATE 19

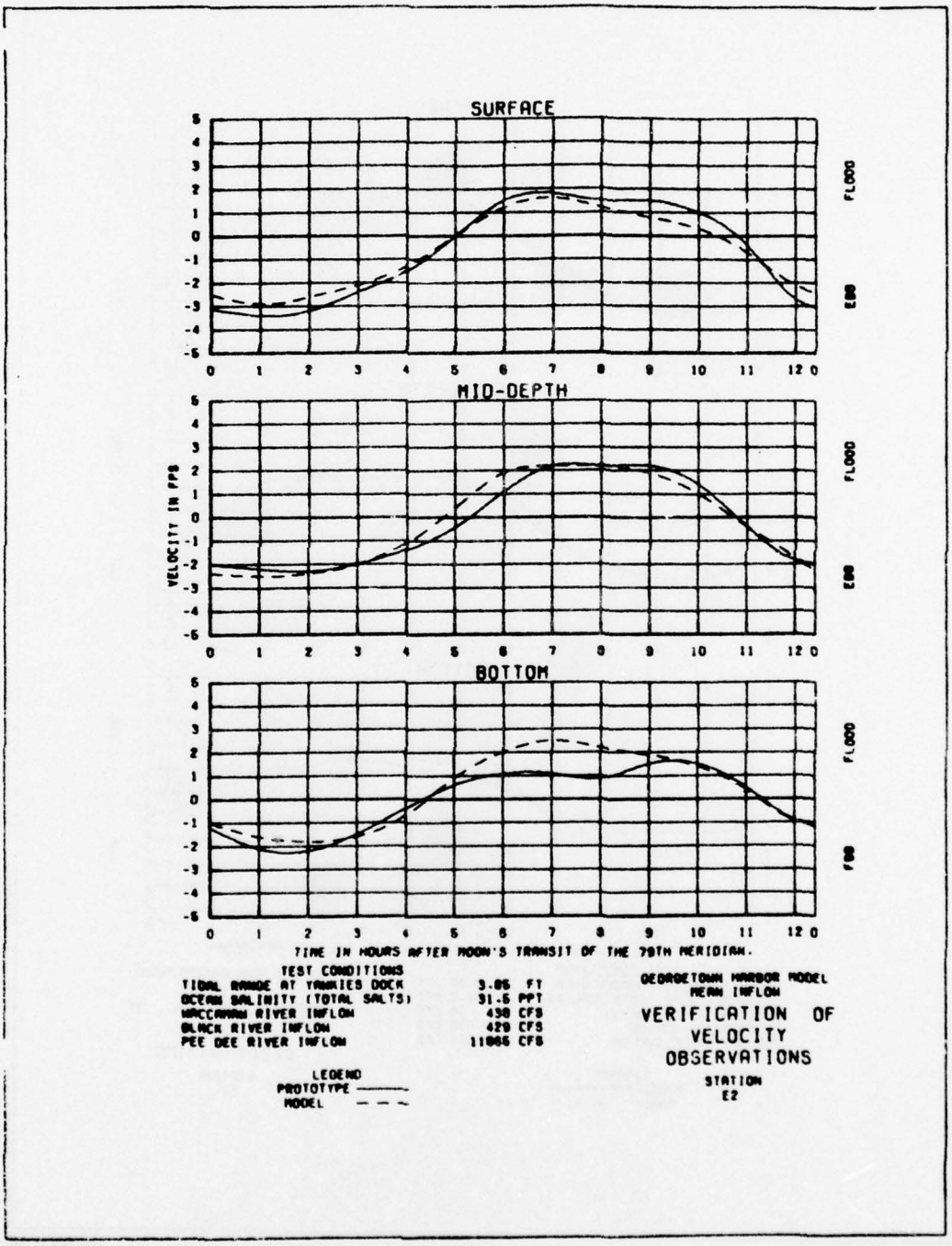
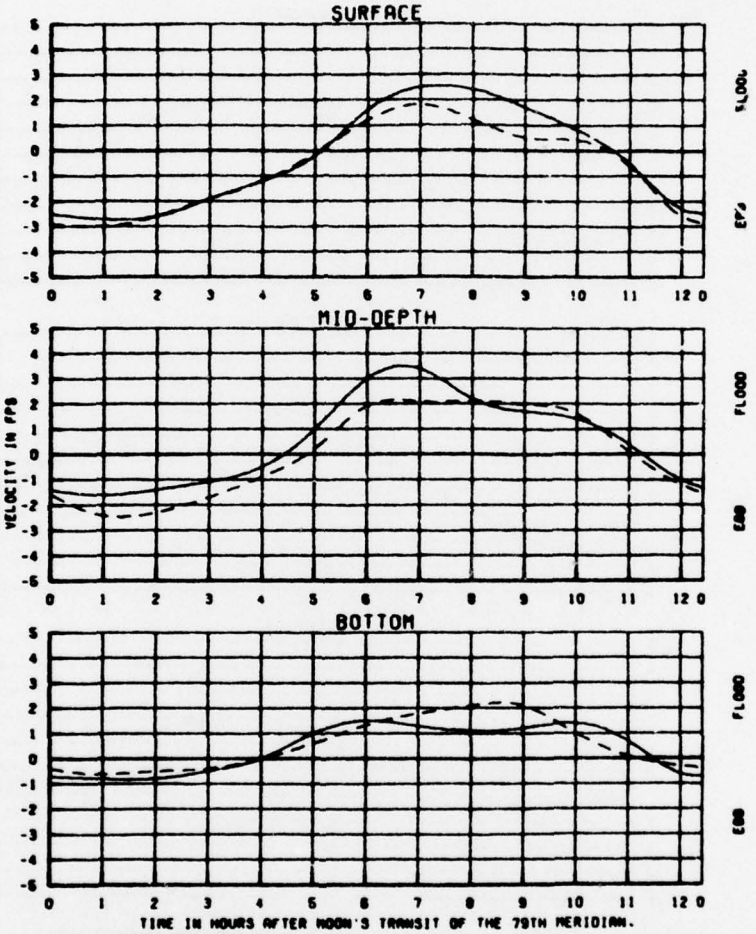

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YAWKIES DOCK 3.85 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 438 CFS
BLACK RIVER INFLOW 429 CFS
PEE DEE RIVER INFLOW 11865 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
MEAN INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION E2

PLATE 20



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.06 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
E3

PLATE 21

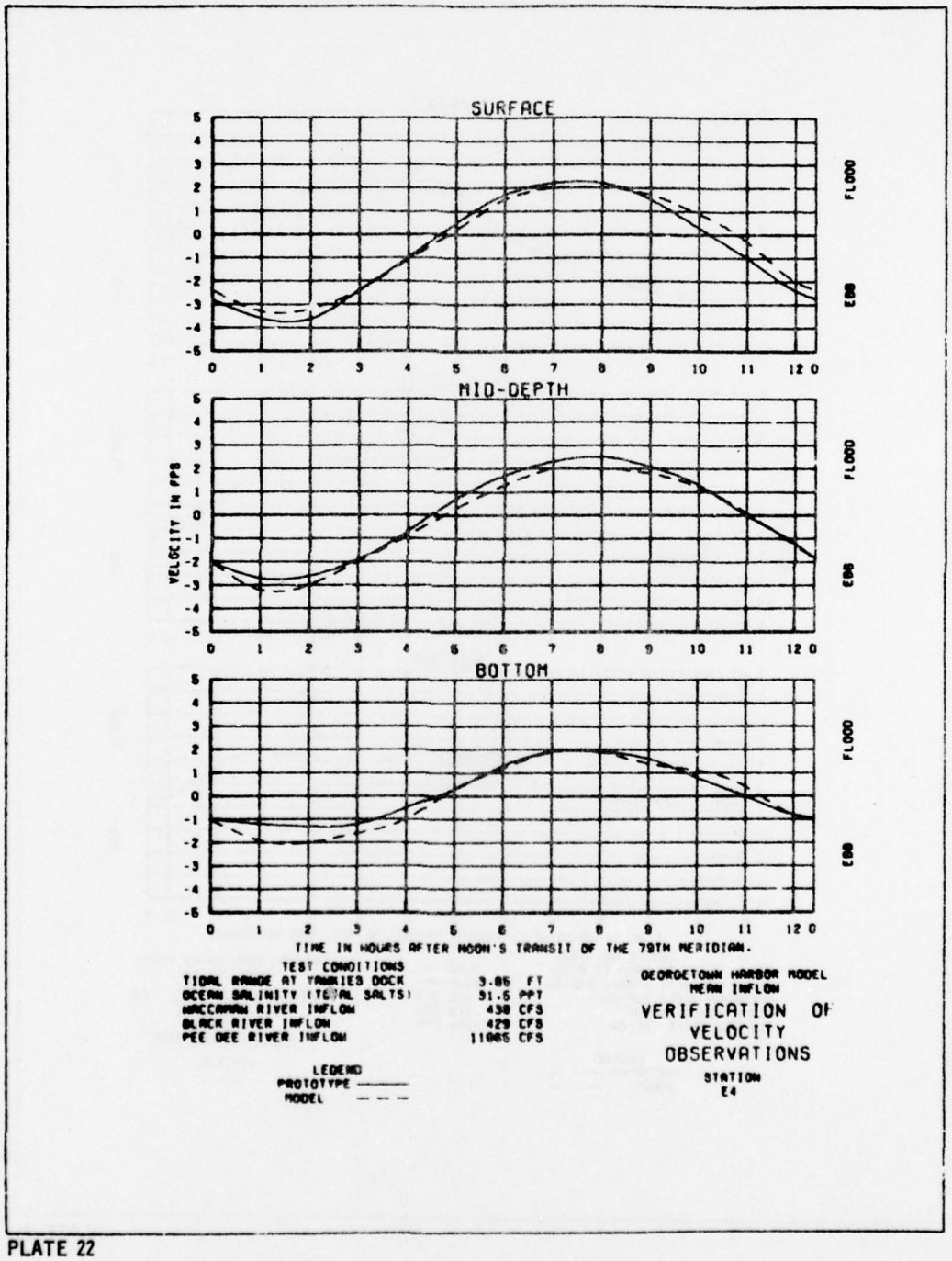
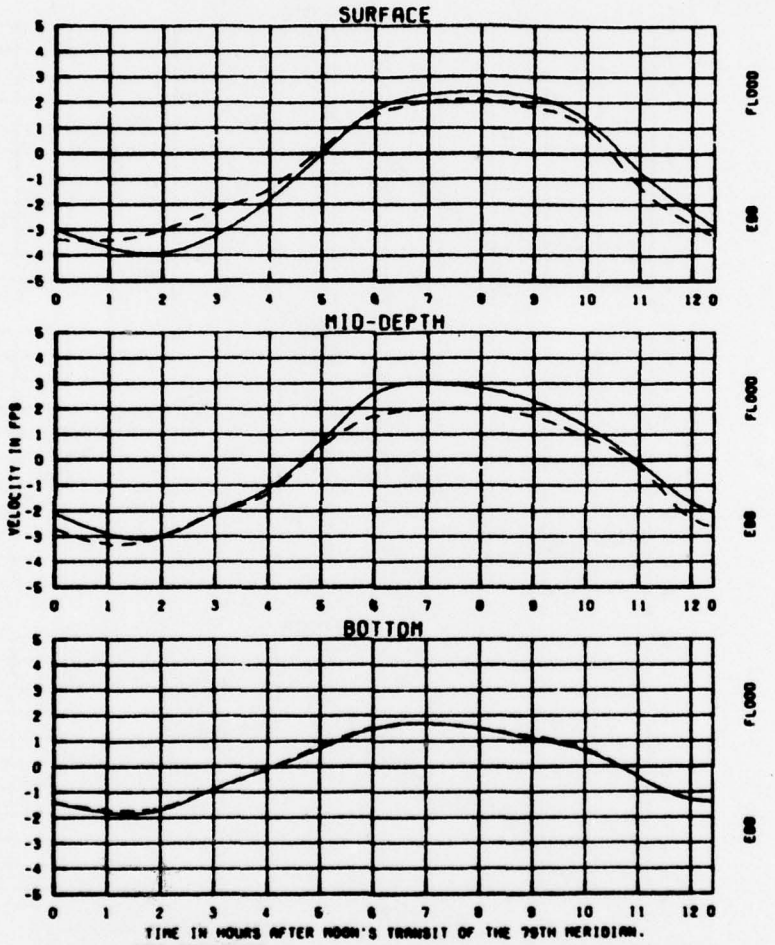

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
5
4
3
2
1
0
-1
-2
-3
-4
-5
0 1 2 3 4 5 6 7 8 9 10 11 12 0
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YAWKIES DOCK 3.86 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 438 CFS
BLACK RIVER INFLOW 429 CFS
PEE DEE RIVER INFLOW 11085 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
MEAN INFLOW
VERIFICATION OF
VELOCITY
OBSERVATIONS
STATION
E4

PLATE 22



TEST CONDITIONS

TIDAL RANGE AT YAMKIES DOCK	3.86 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	430 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11806 CFS

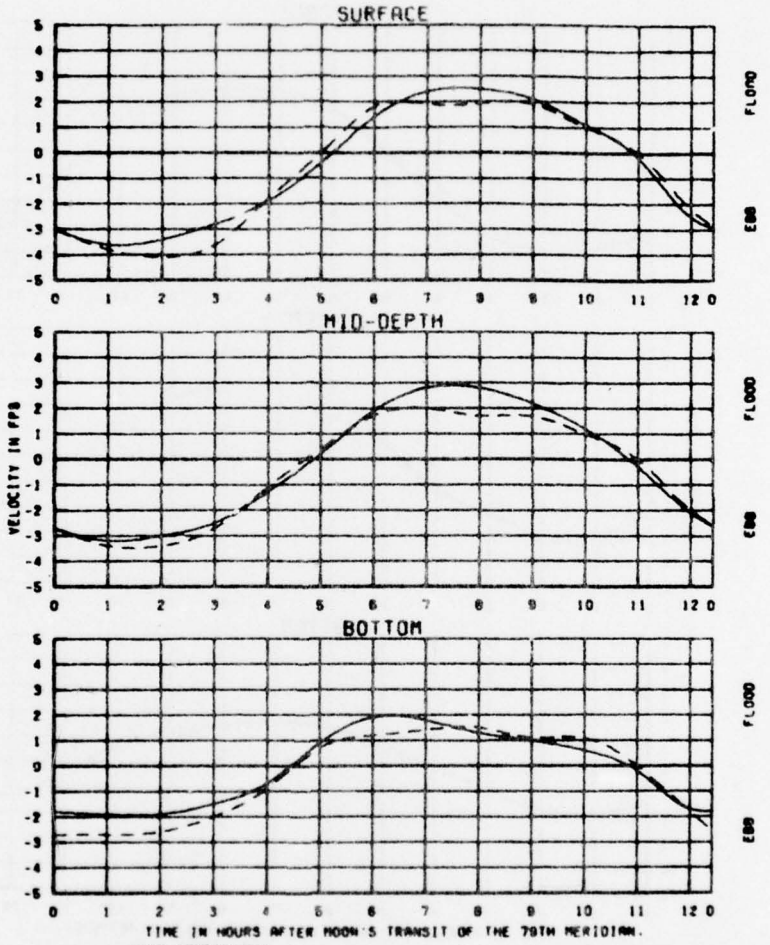
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
F1

PLATE 23



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.86 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11065 CFS

LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION F2

PLATE 24

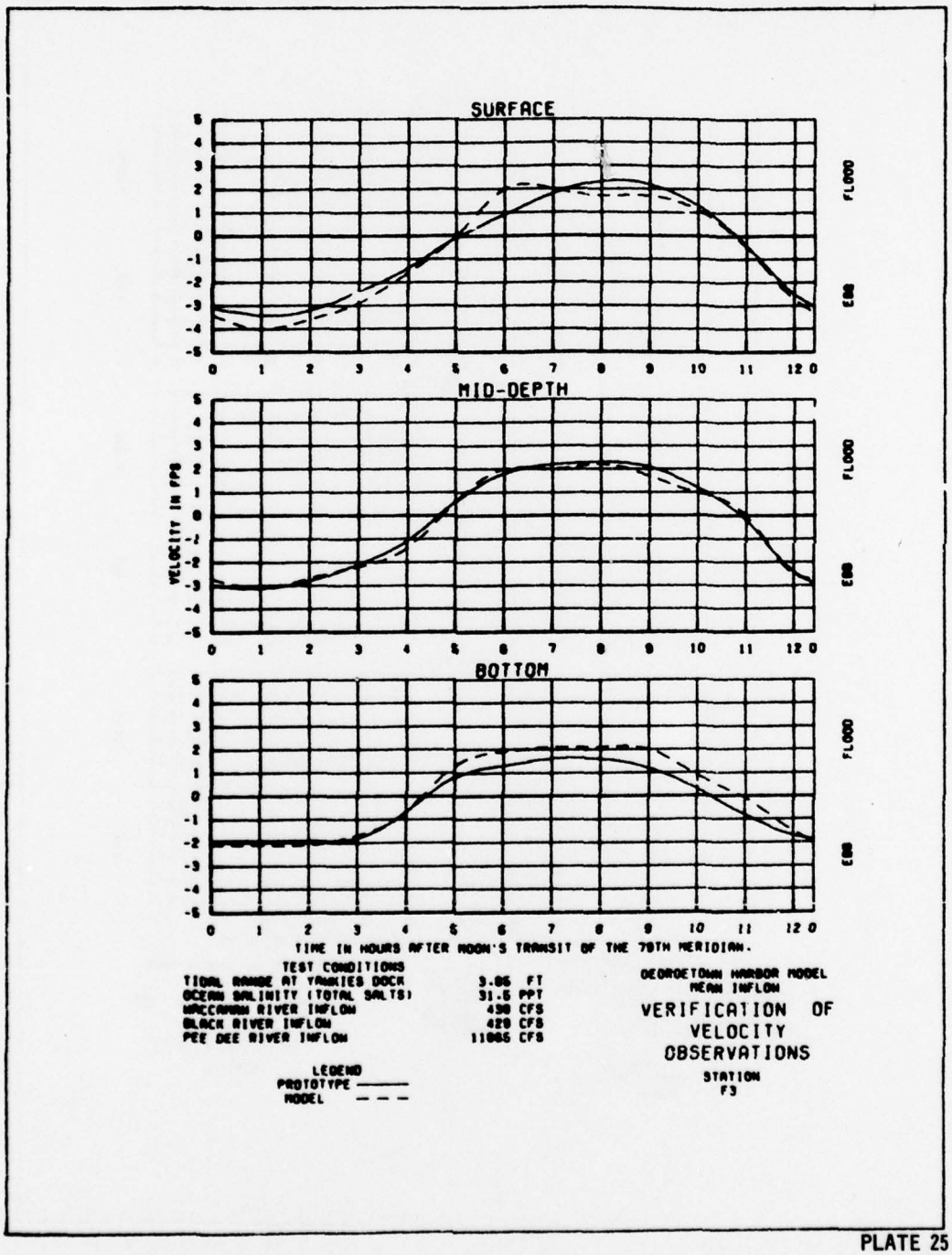
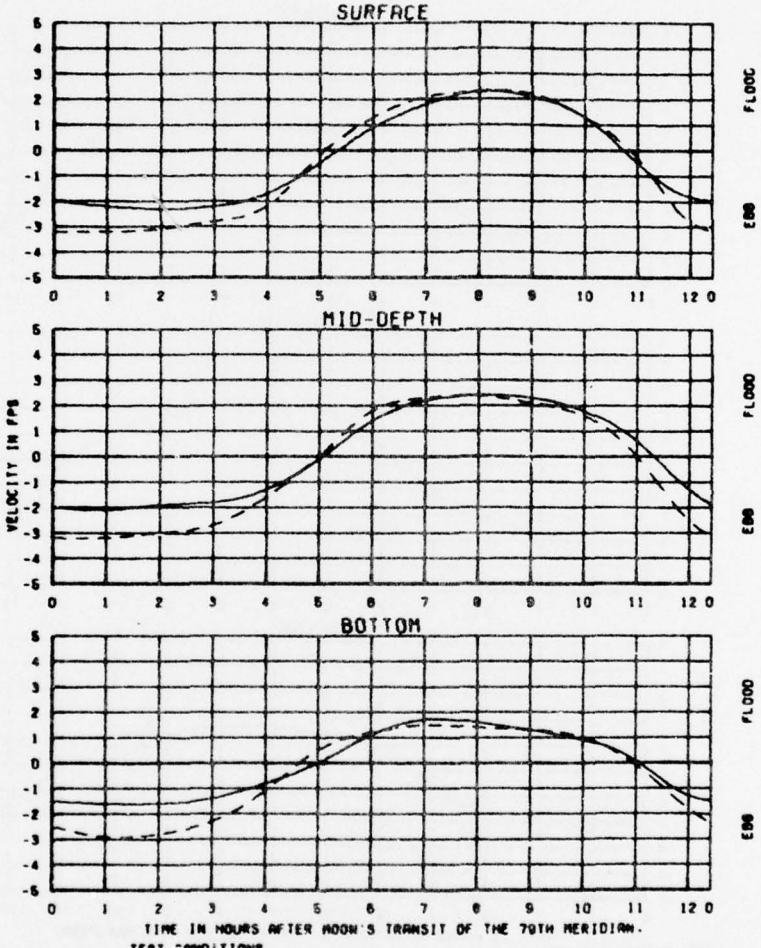

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 3.85 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 450 CFS
BLACK RIVER INFLOW 420 CFS
PEE DEE RIVER INFLOW 11065 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
MEAN INFLOW
VERIFICATION OF
VELOCITY
OBSERVATIONS
STATION
F3

PLATE 25



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

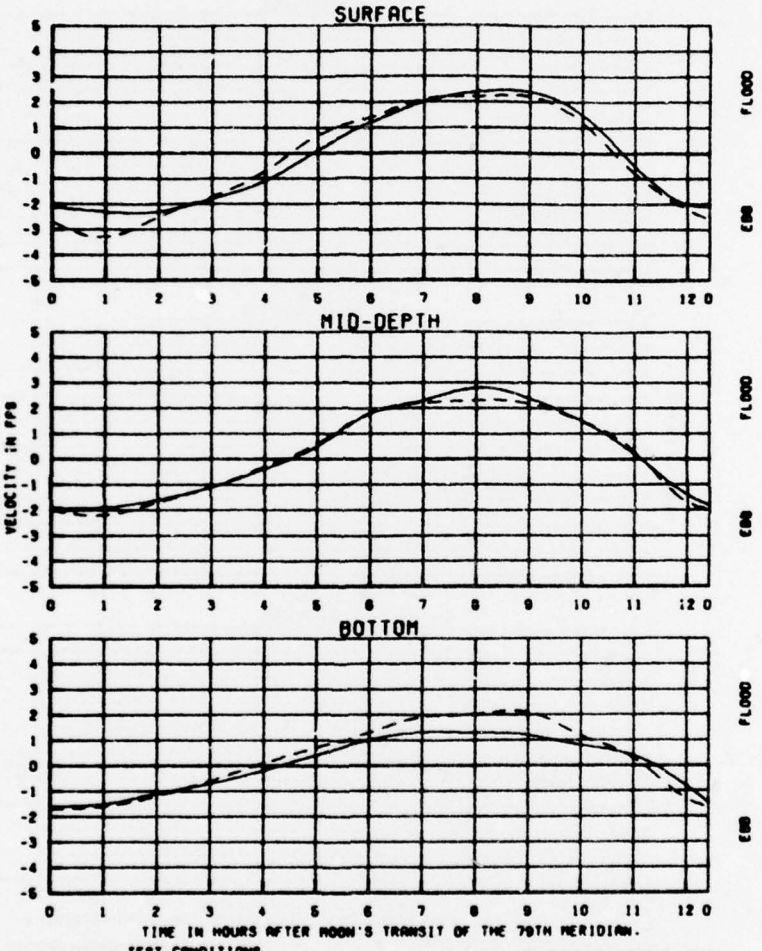
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
0

PLATE 26



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.05 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11065 CFS

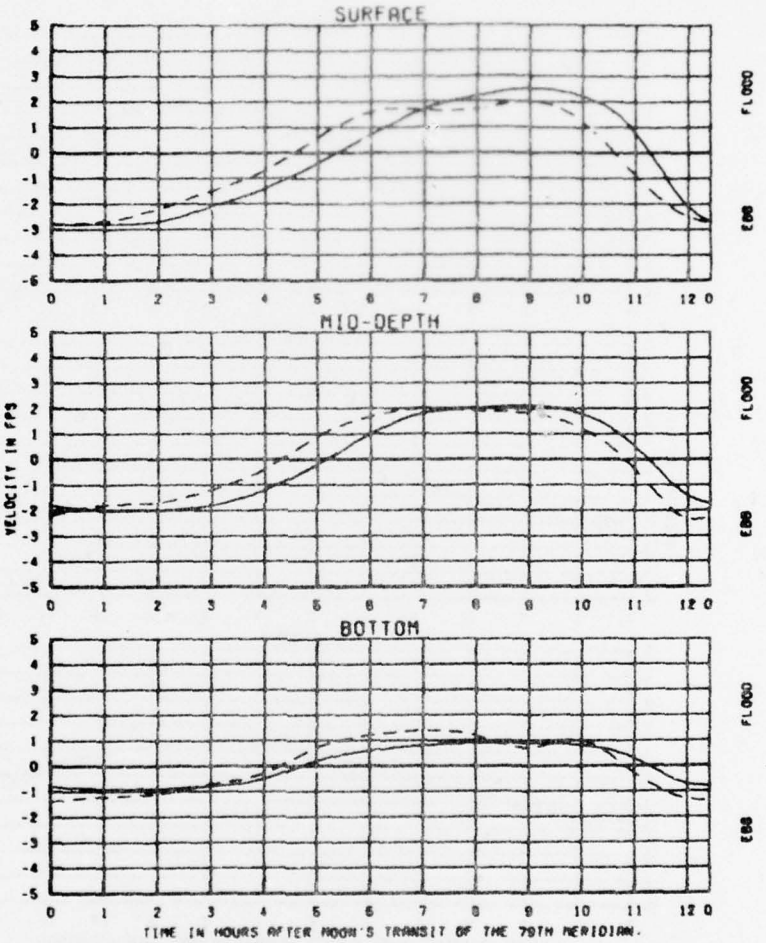
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
M

PLATE 27



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.05 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

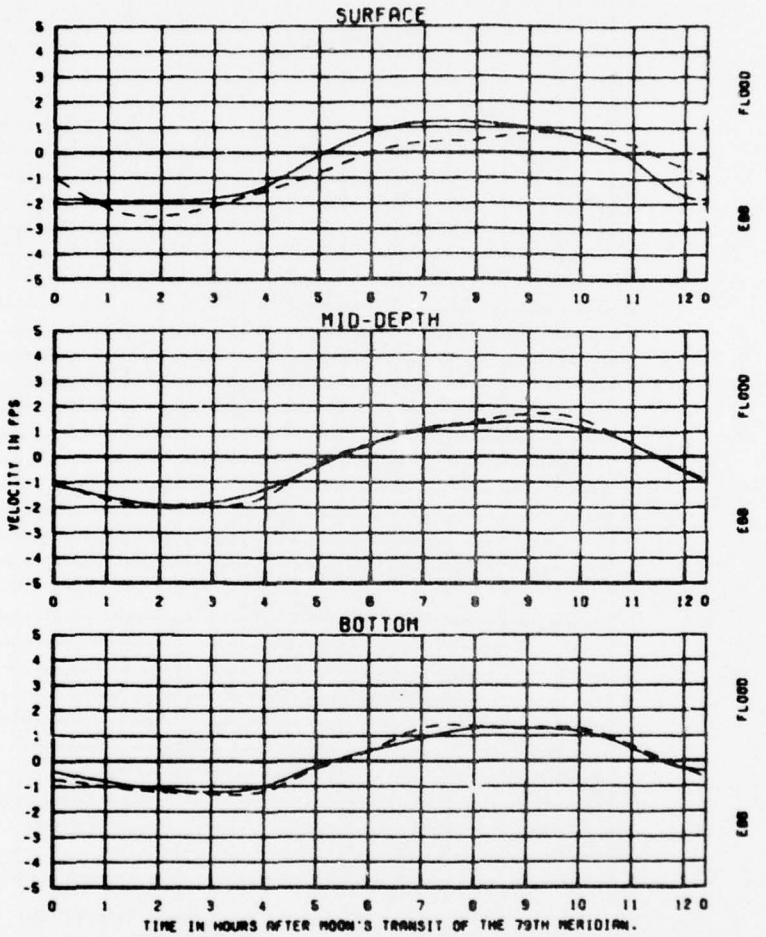
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
1

PLATE 28



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
J

PLATE 29

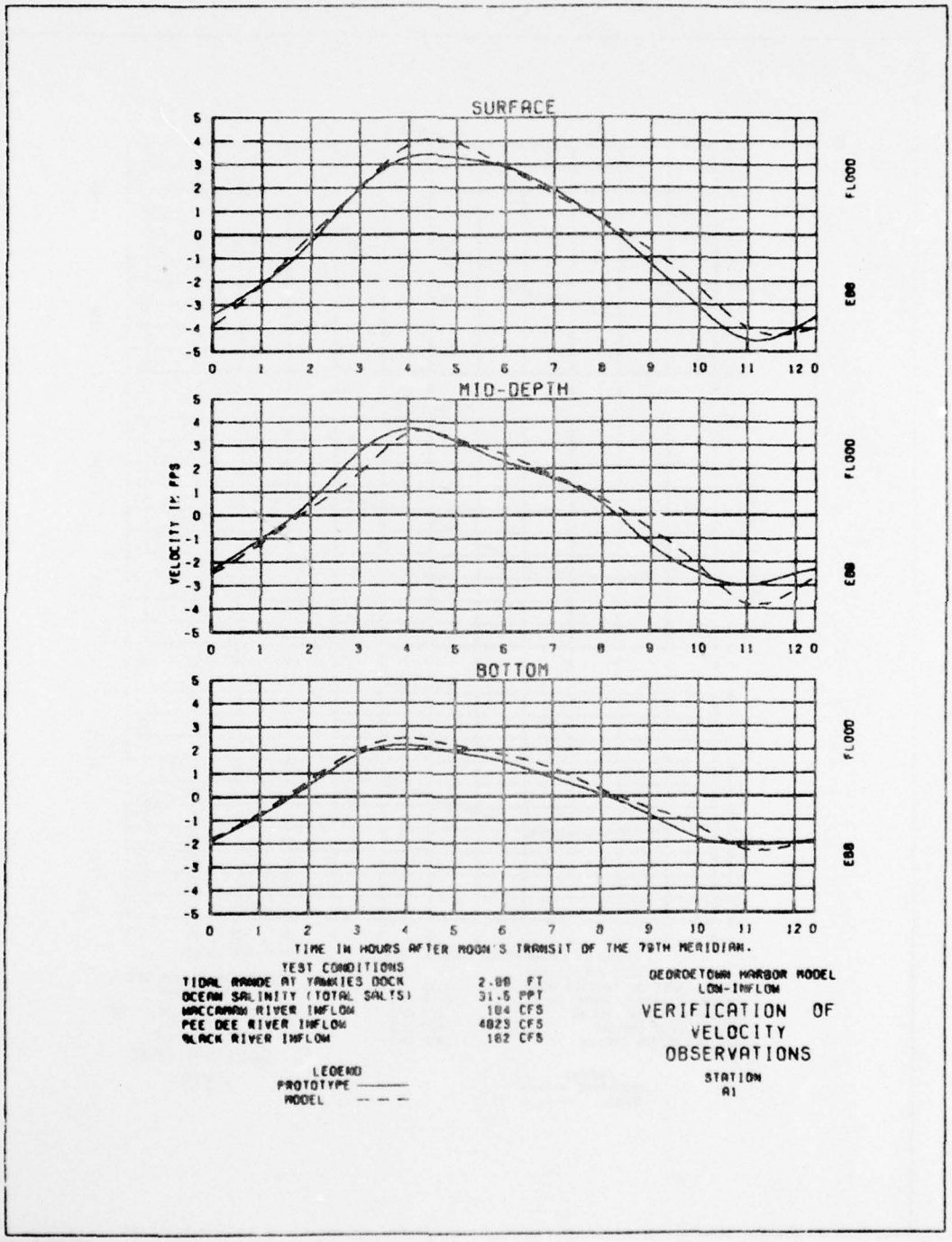
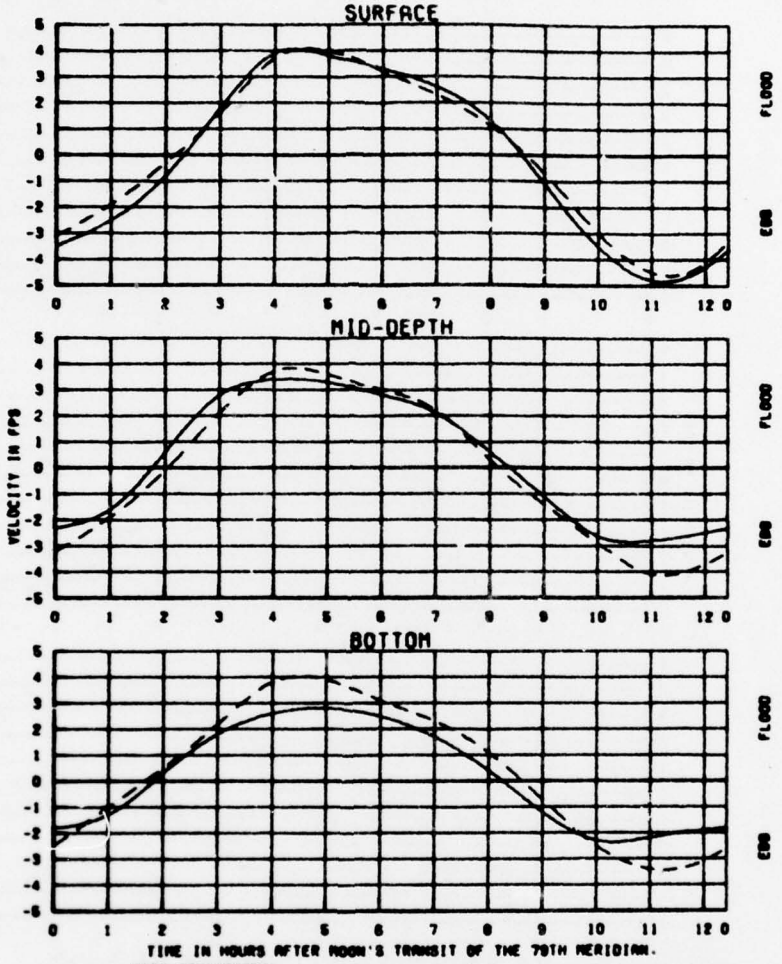

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
5
4
3
2
1
0
-1
-2
-3
-4
-5
0 1 2 3 4 5 6 7 8 9 10 11 12 0
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.88 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 104 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 182 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION
A1

PLATE 30



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.00 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

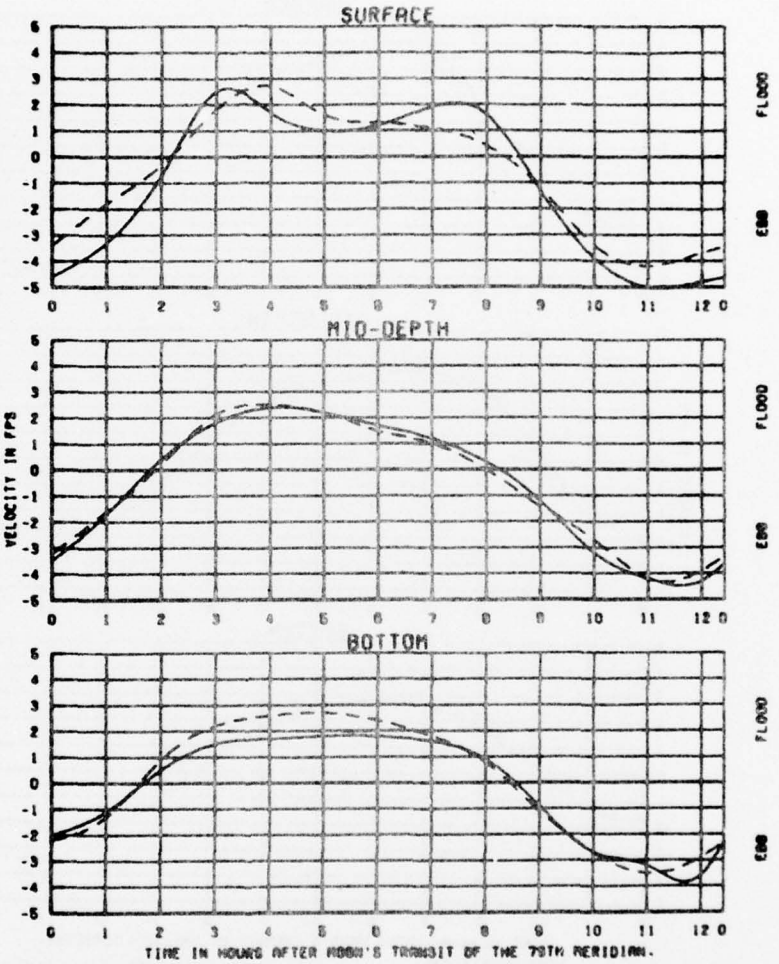
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
A2

PLATE 31



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.88 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	182 CFS

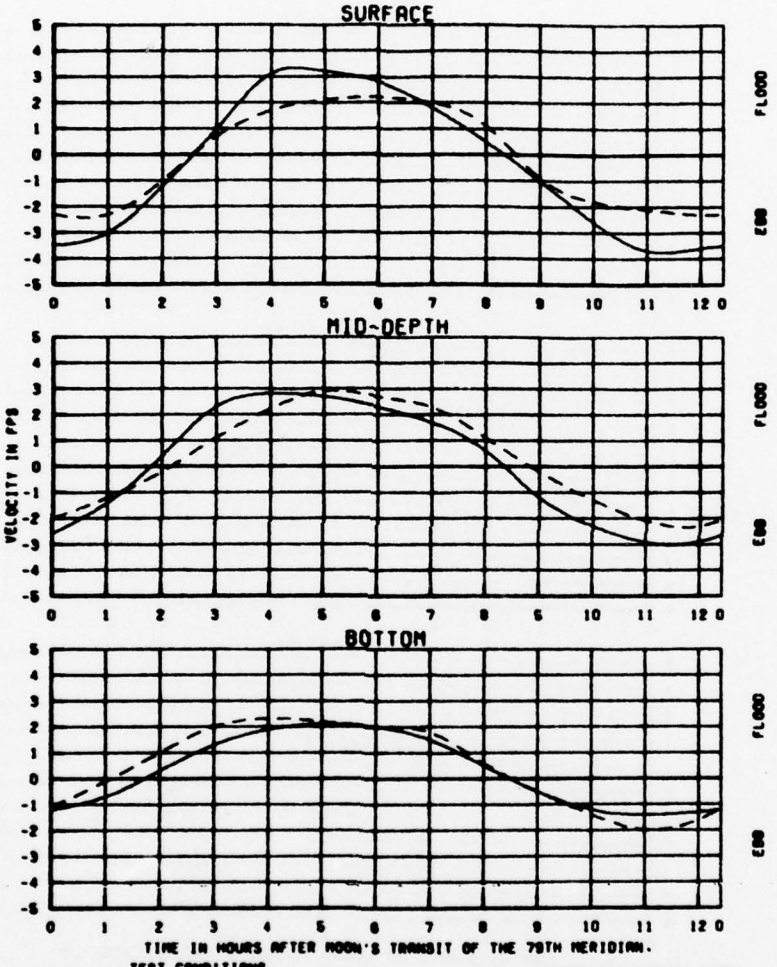
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
A3

PLATE 32



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.90 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	194 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
81

PLATE 33

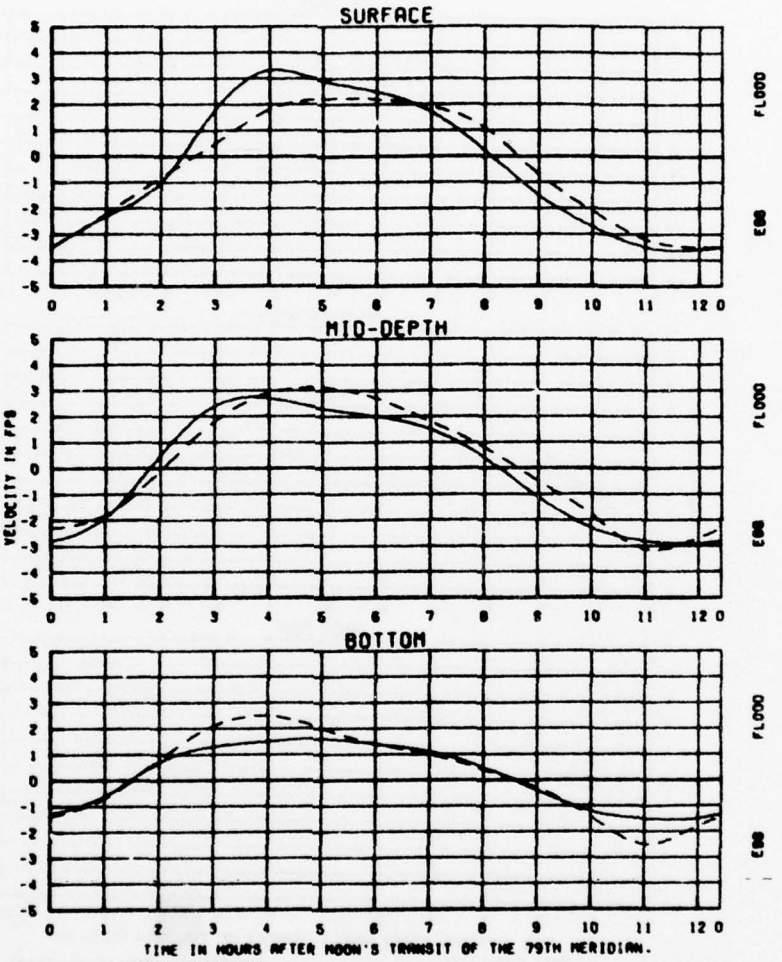
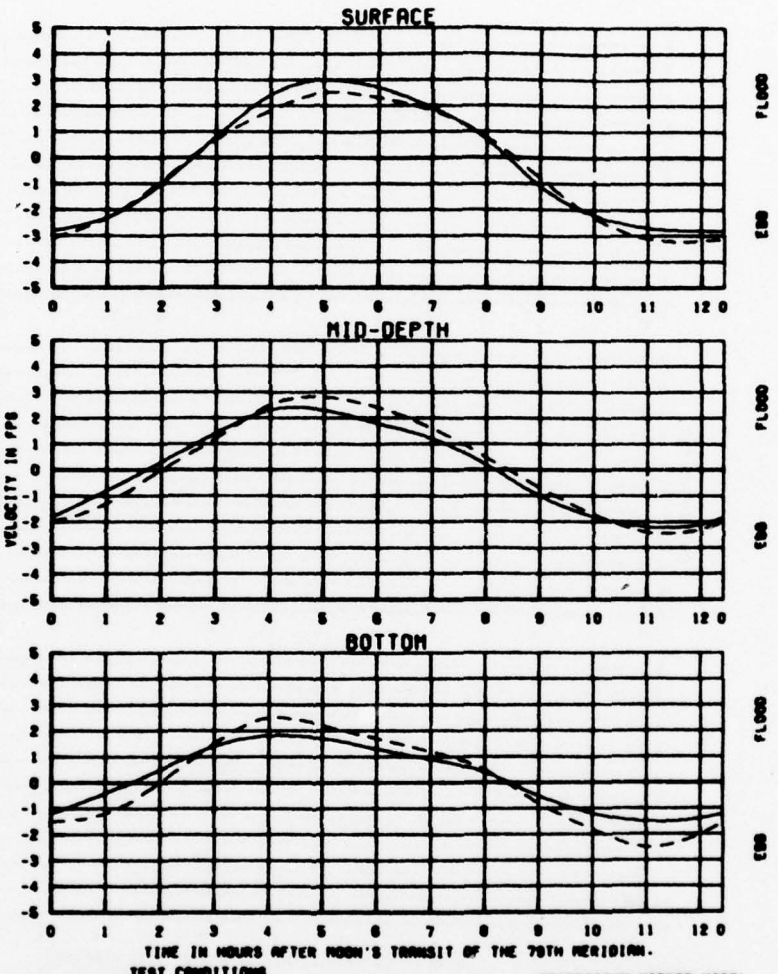

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.90 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LUH-INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION
82

PLATE 34



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
B3

PLATE 35

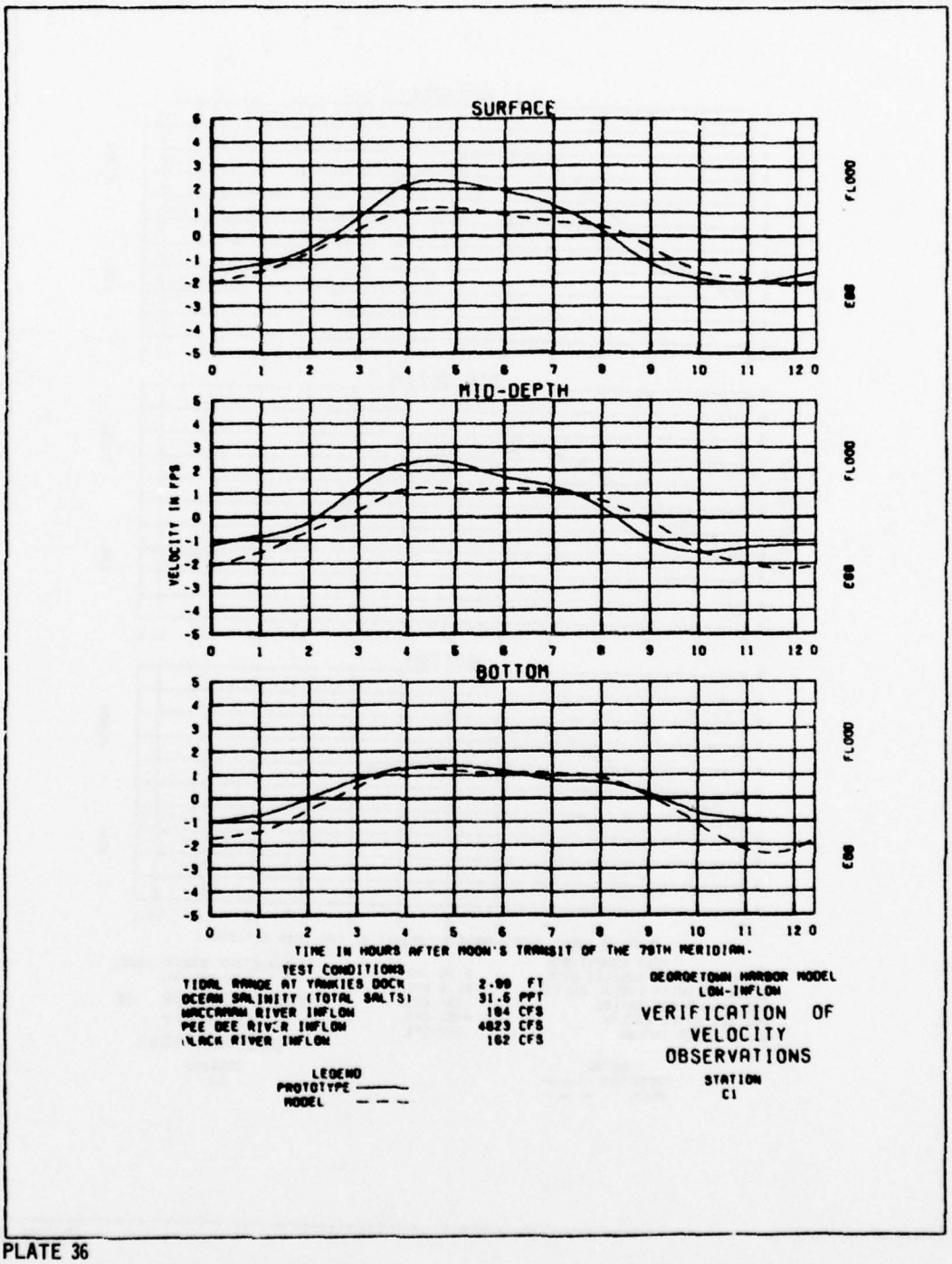
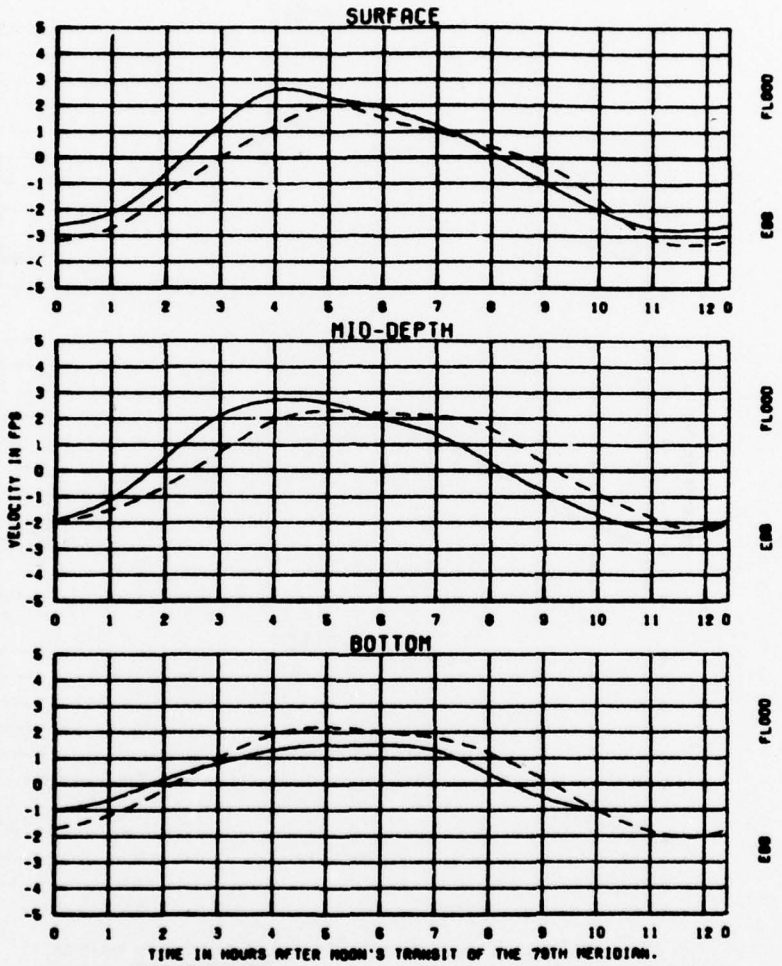

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.90 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF
VELOCITY
OBSERVATIONS
STATION
C1

PLATE 36



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.99 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
MCCRANN RIVER INFLOW	194 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

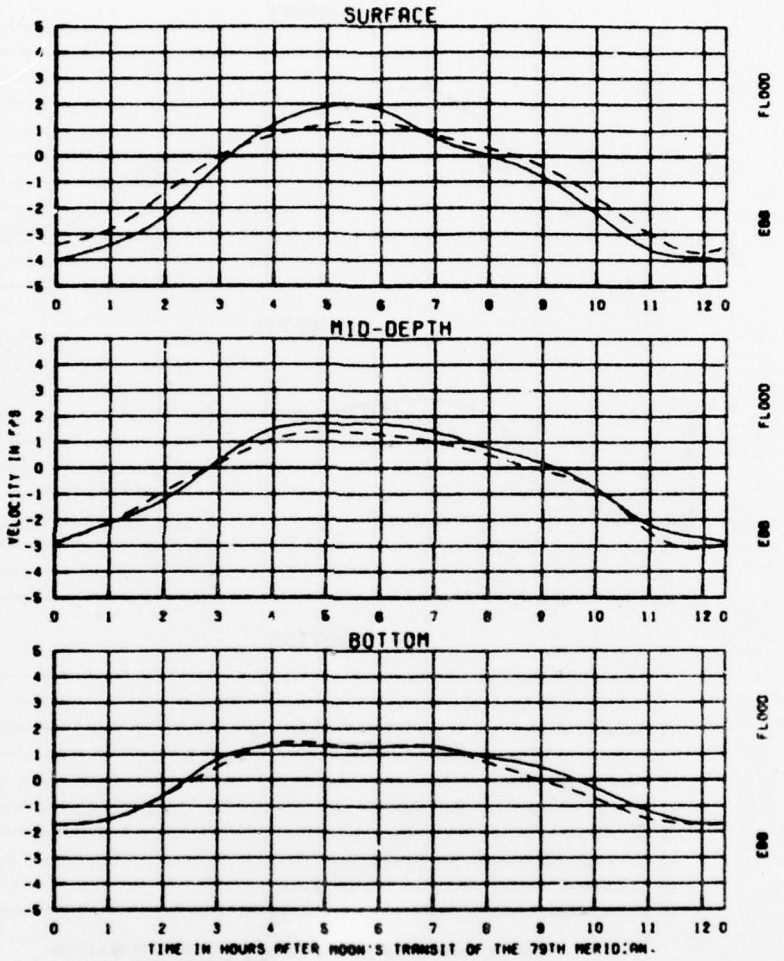
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
C2

PLATE 37



TEST CONDITIONS

TIDAL RANGE AT YAMKIES DOCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	182 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
C4

PLATE 38

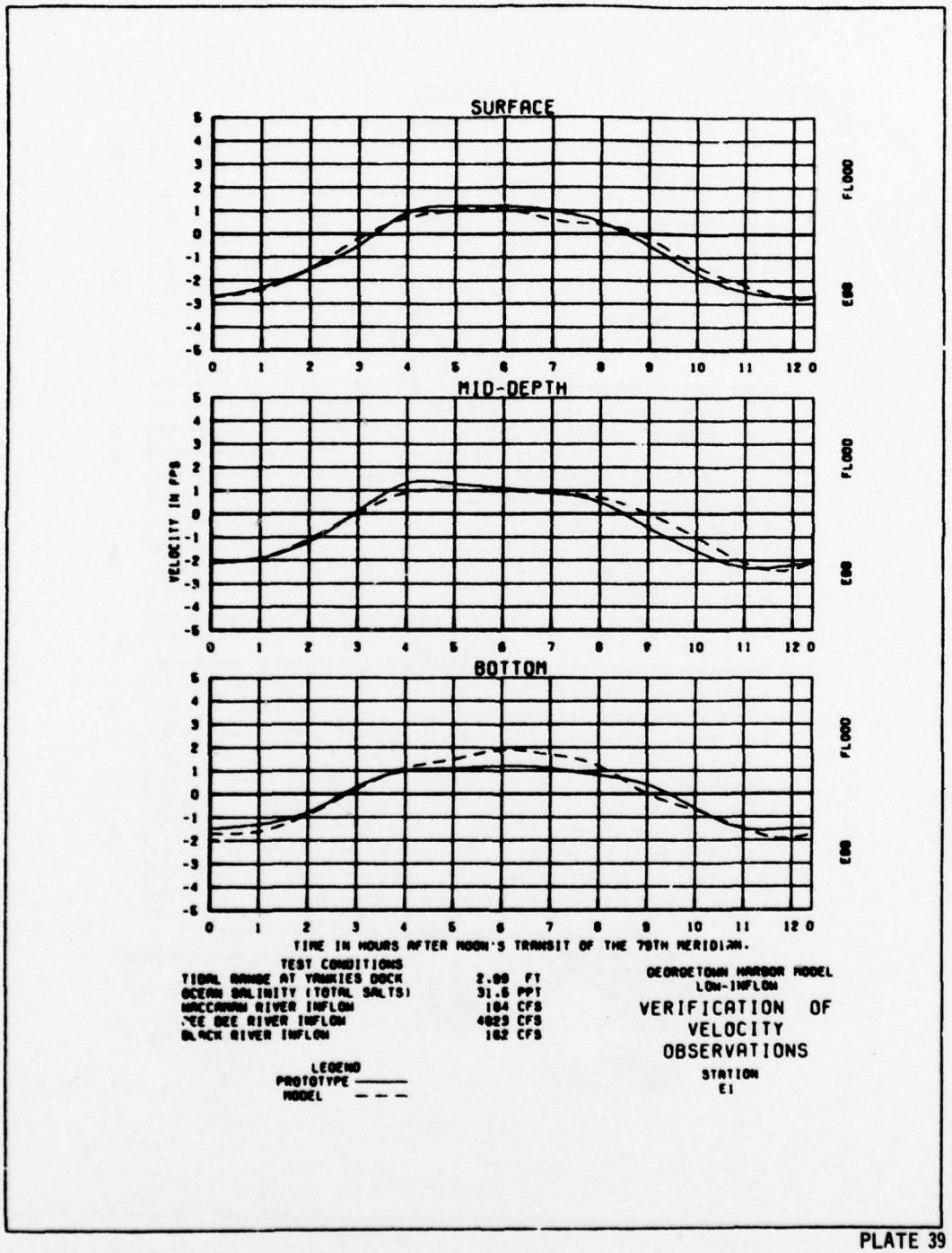

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.99 FT
OCEAN SALINITY (TOTAL SALTS) 31.6 PPT
WACCAMAW RIVER INFLOW 184 CFS
YEE BEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 182 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION
E1

PLATE 39

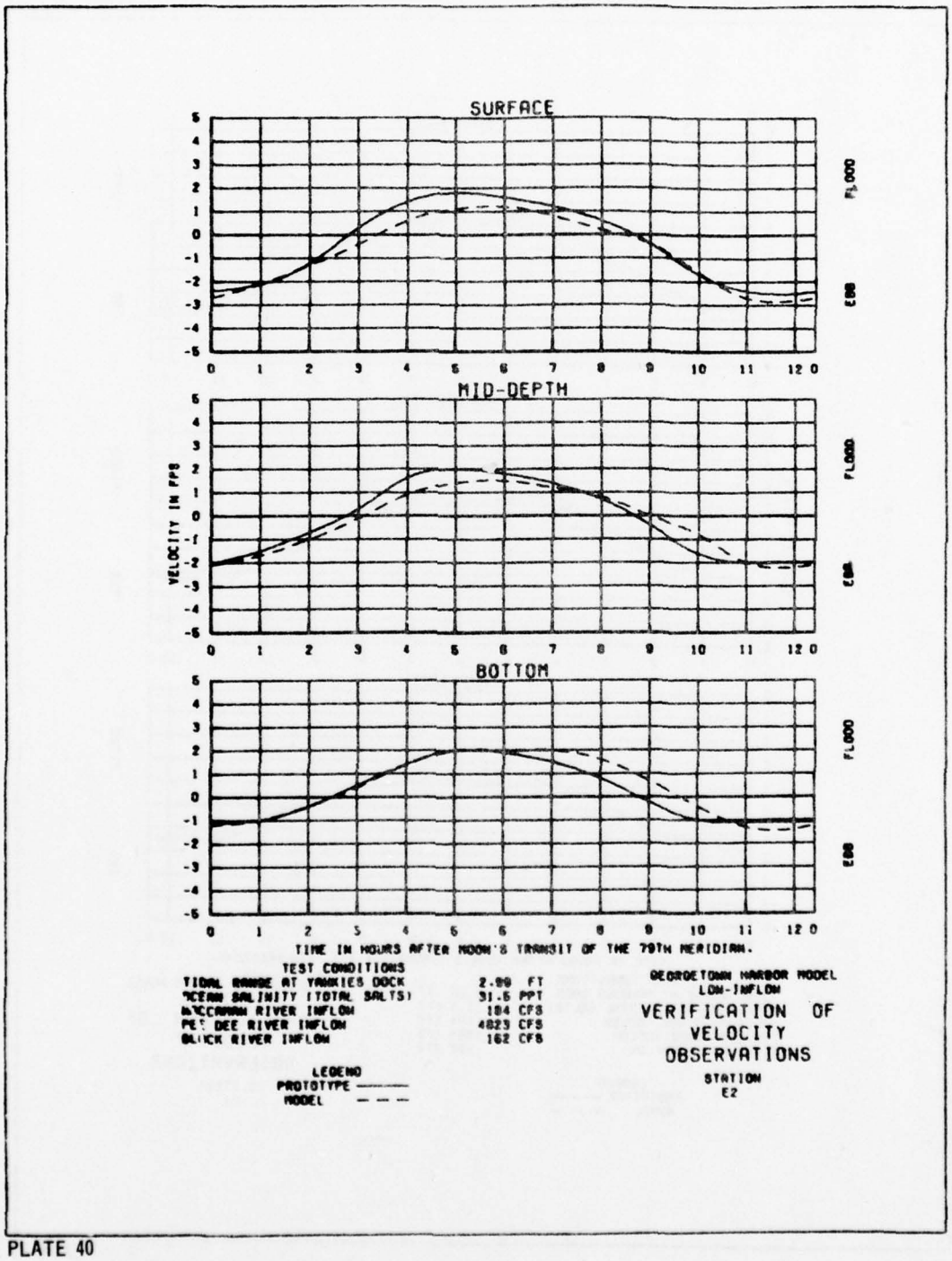
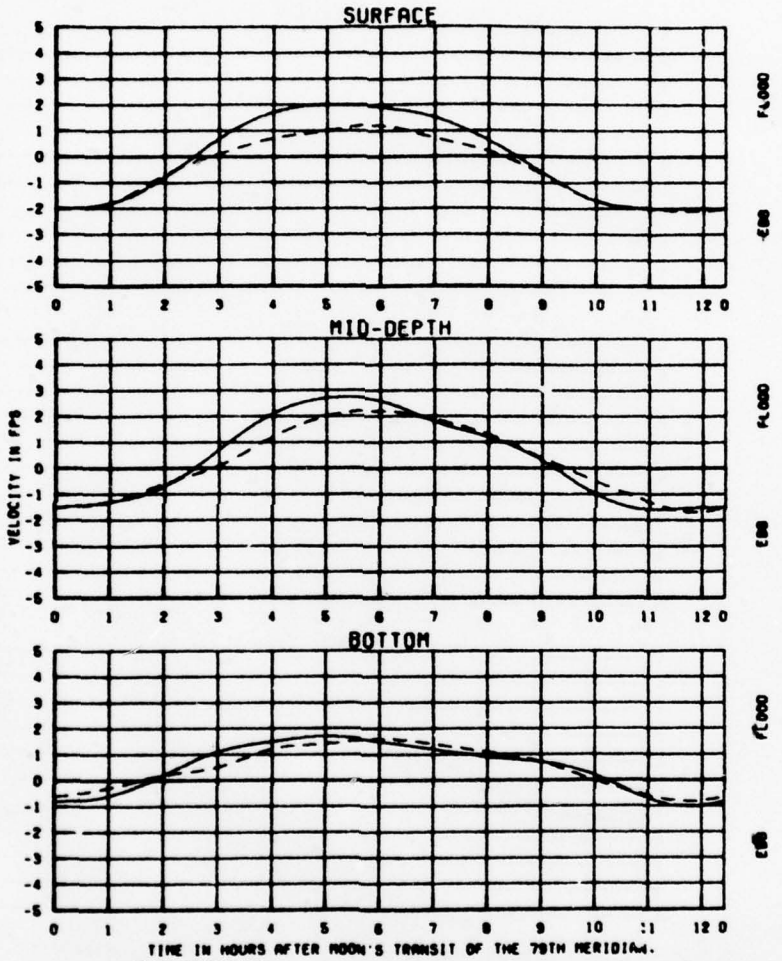

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.99 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION
E2

PLATE 40



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.90 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

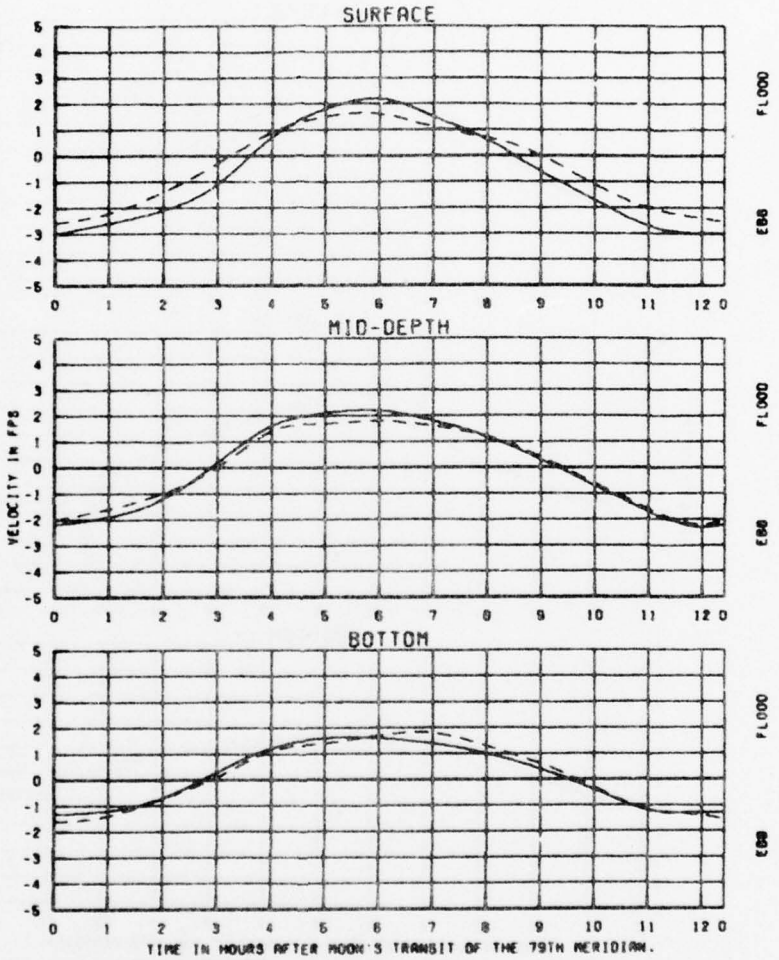
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
E3

PLATE 41



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.99 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

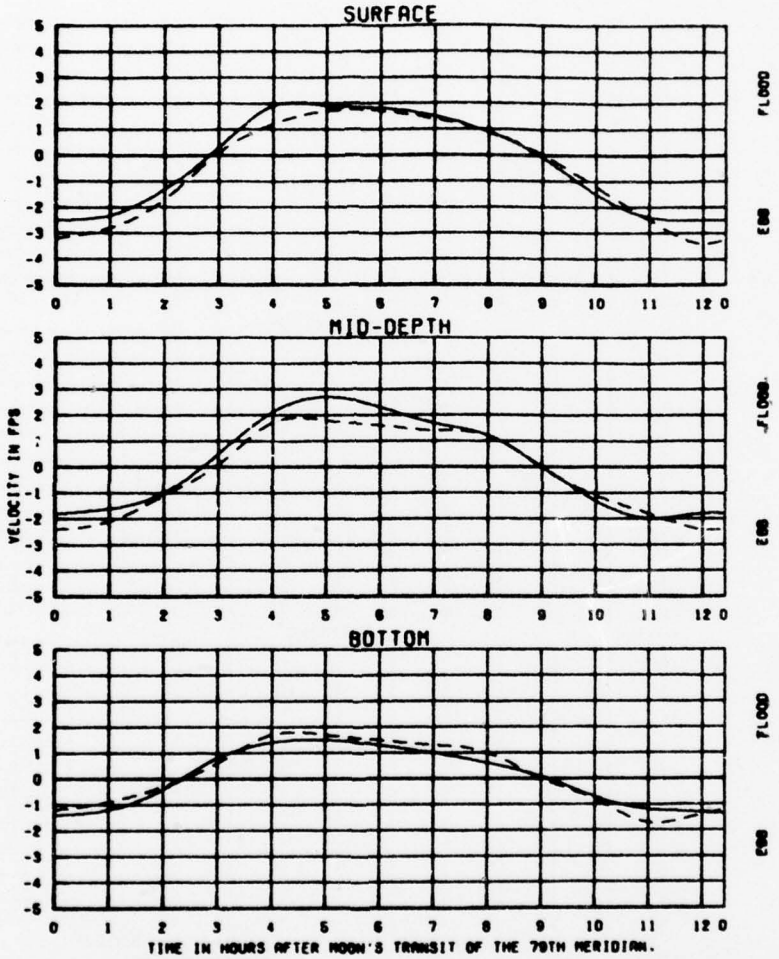
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
E4

PLATE 42



TEST CONDITIONS

TIDAL RANGE AT YANKEE DOCK	2.99 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
MACHIAS RIVER INFLOW	184 CFS
PLEASANT RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION
F1

PLATE 43

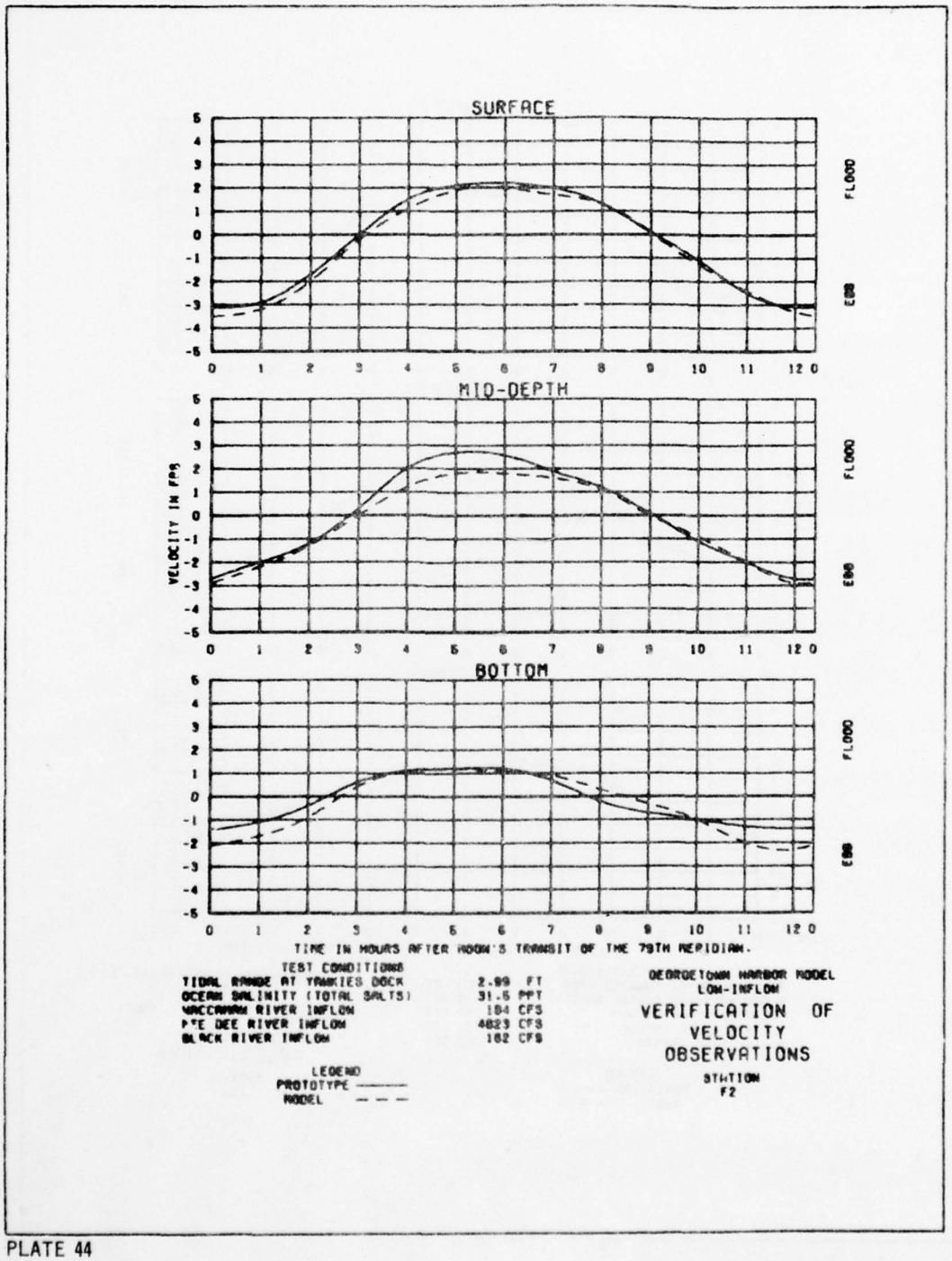

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.99 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 194 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION F2

PLATE 44

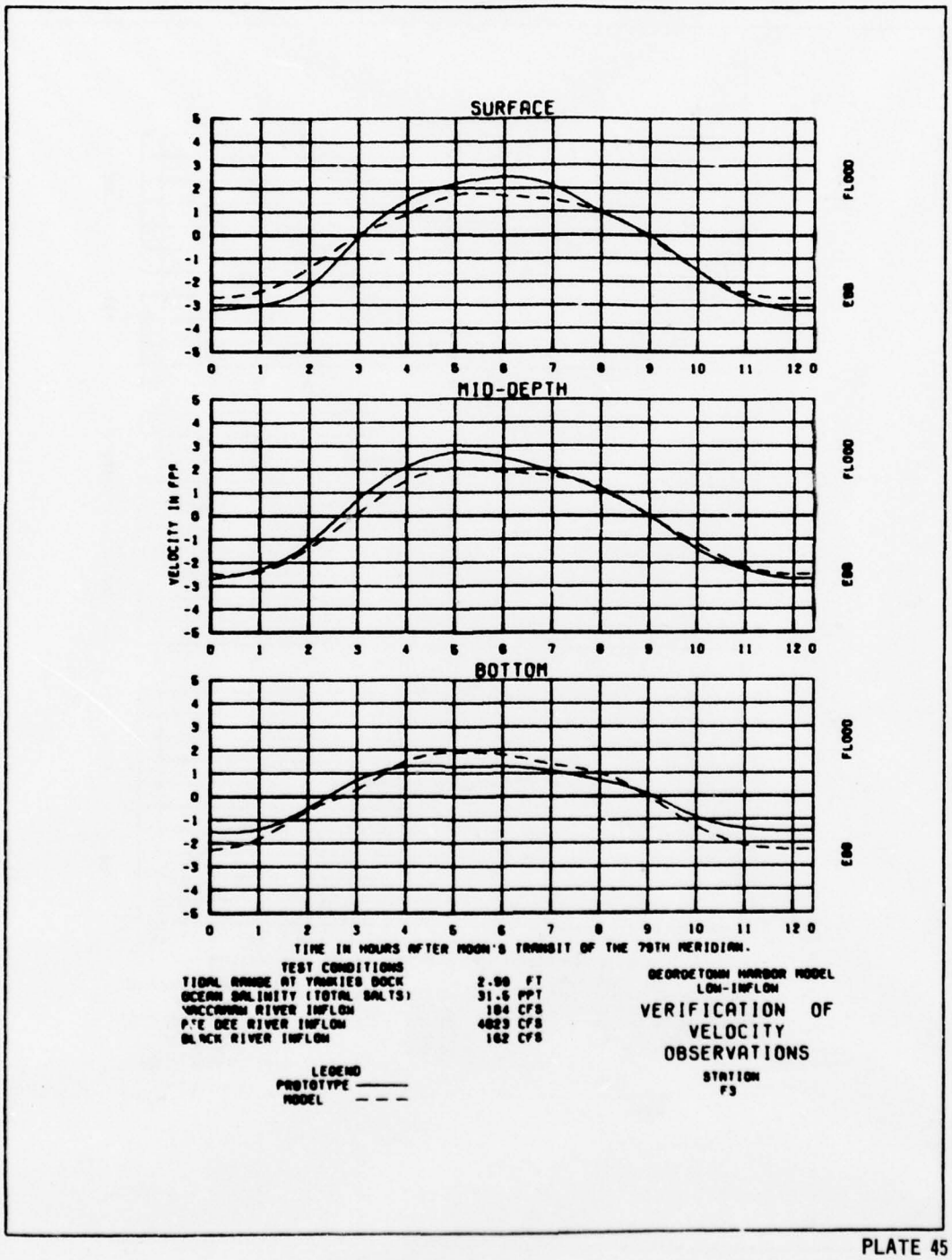

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.98 FT
OCEAN SALINITY (TOTAL SALTS) 31.6 PPT
WACCAMAW RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF
VELOCITY
OBSERVATIONS
STATION
F3

PLATE 45

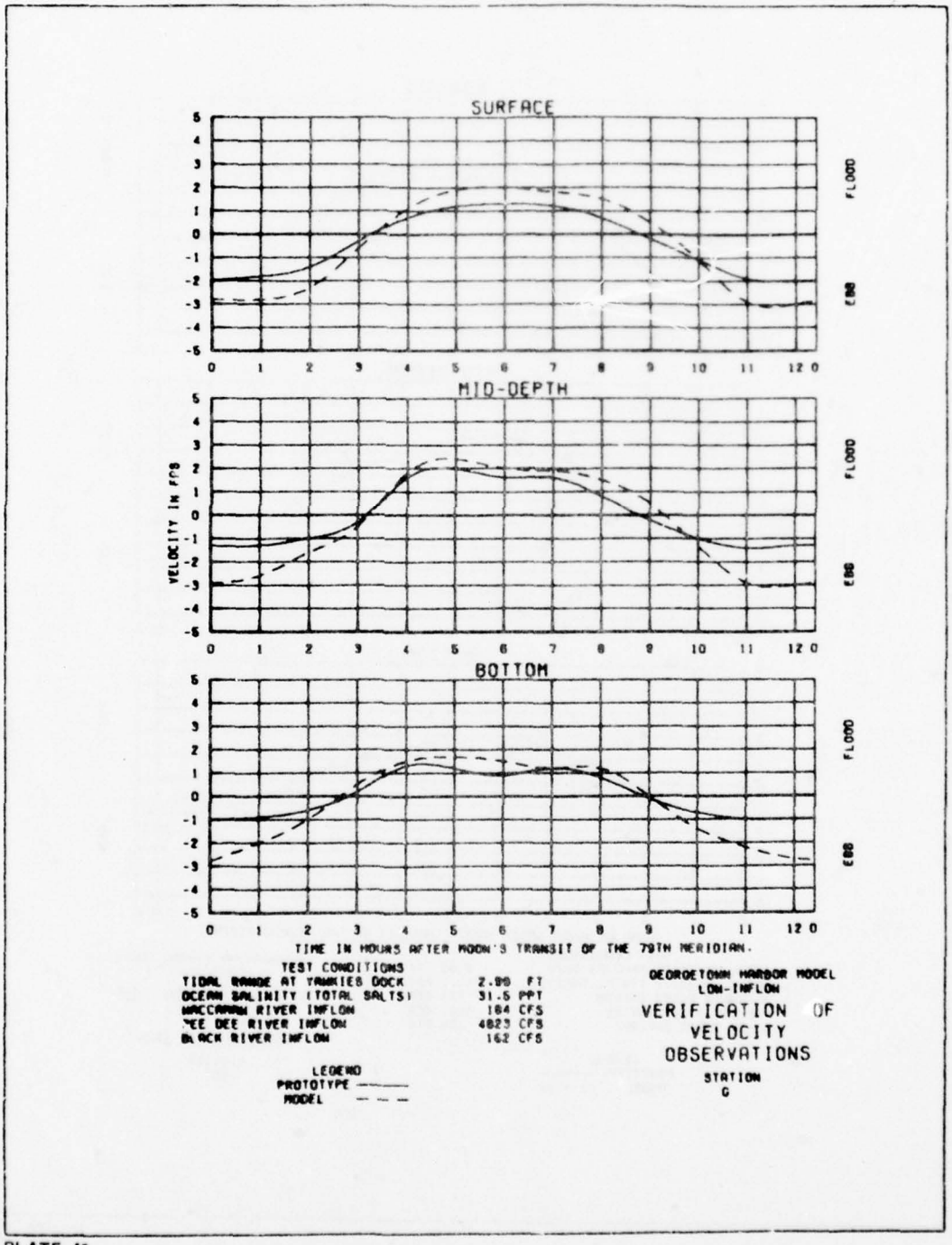

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.88 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION G

PLATE 46

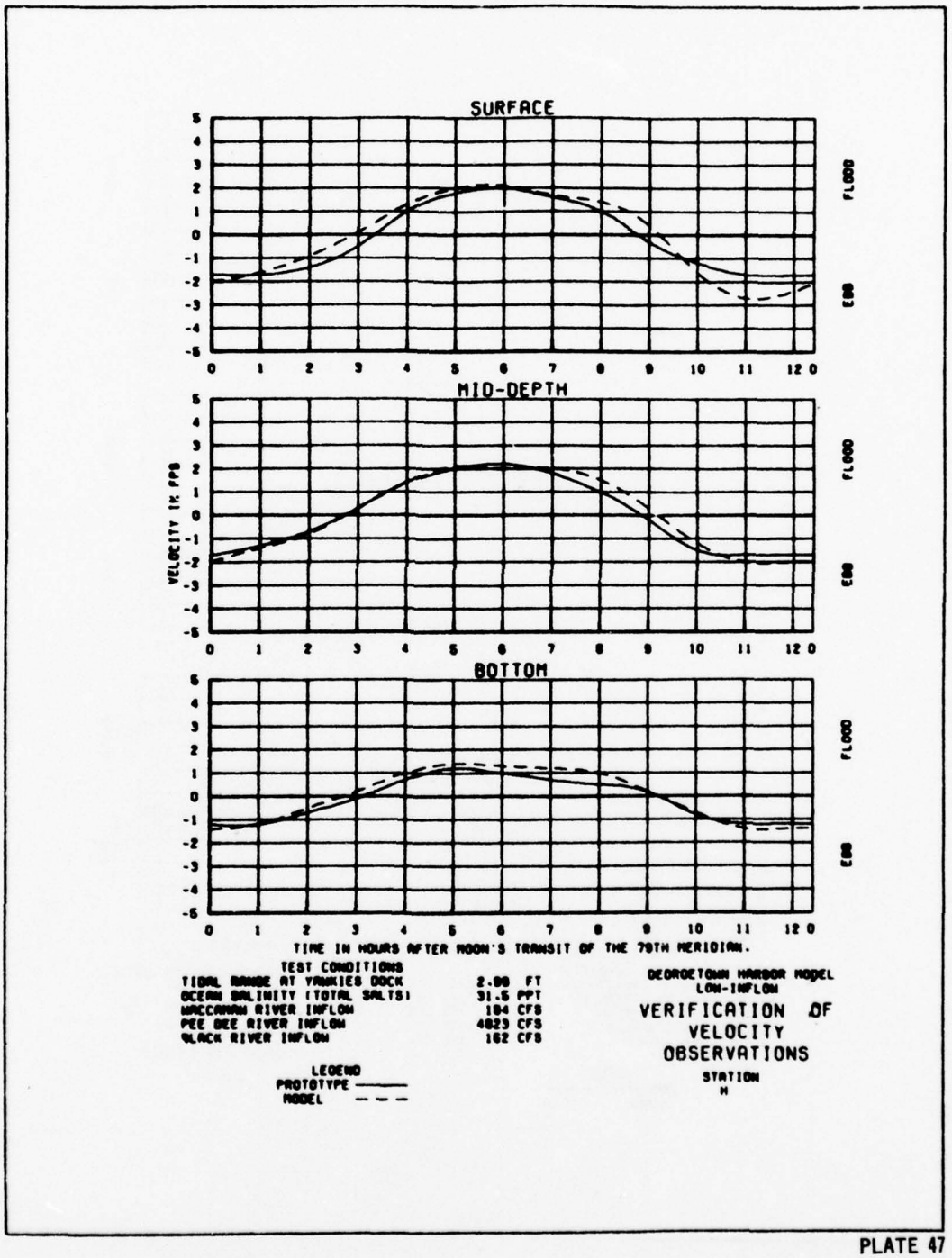

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YAMKIES DOCK 2.98 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION
M

PLATE 47

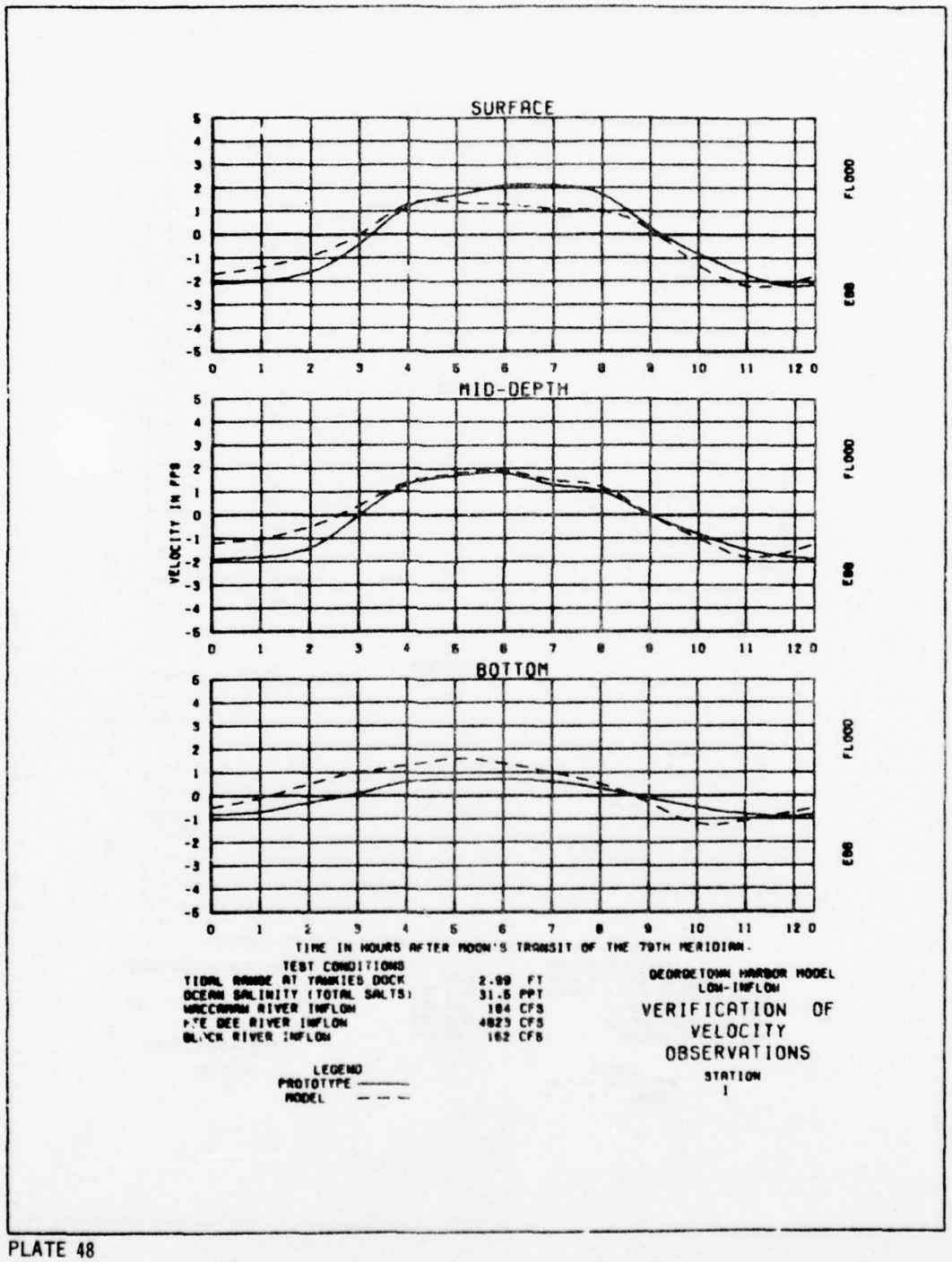
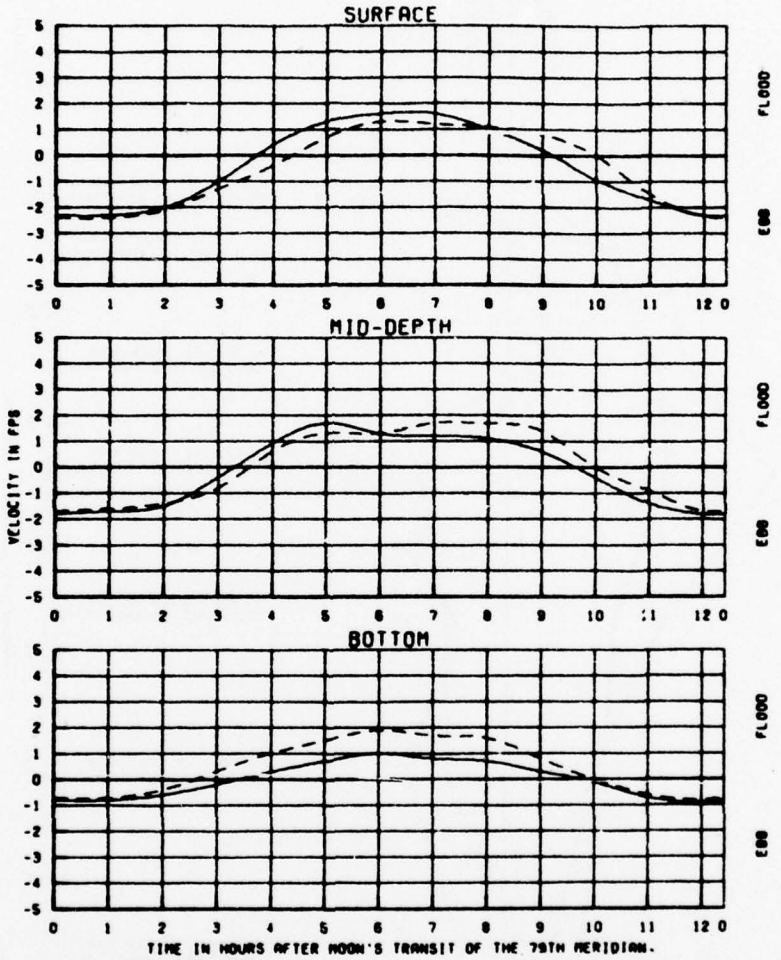

SURFACE
MID-DEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.99 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF VELOCITY OBSERVATIONS
STATION 1

PLATE 48



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.99 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

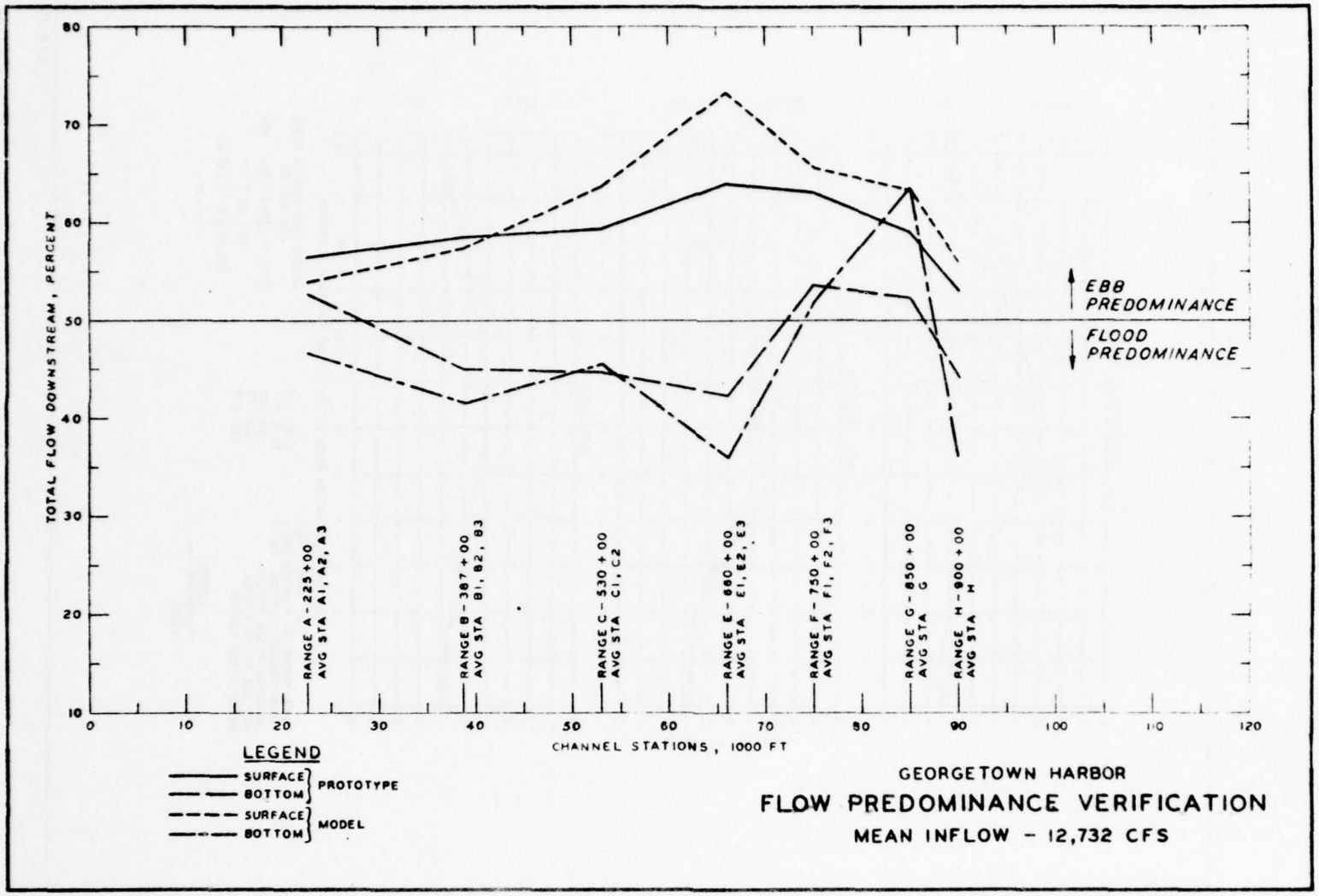
GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF VELOCITY OBSERVATIONS

STATION J

PLATE 49

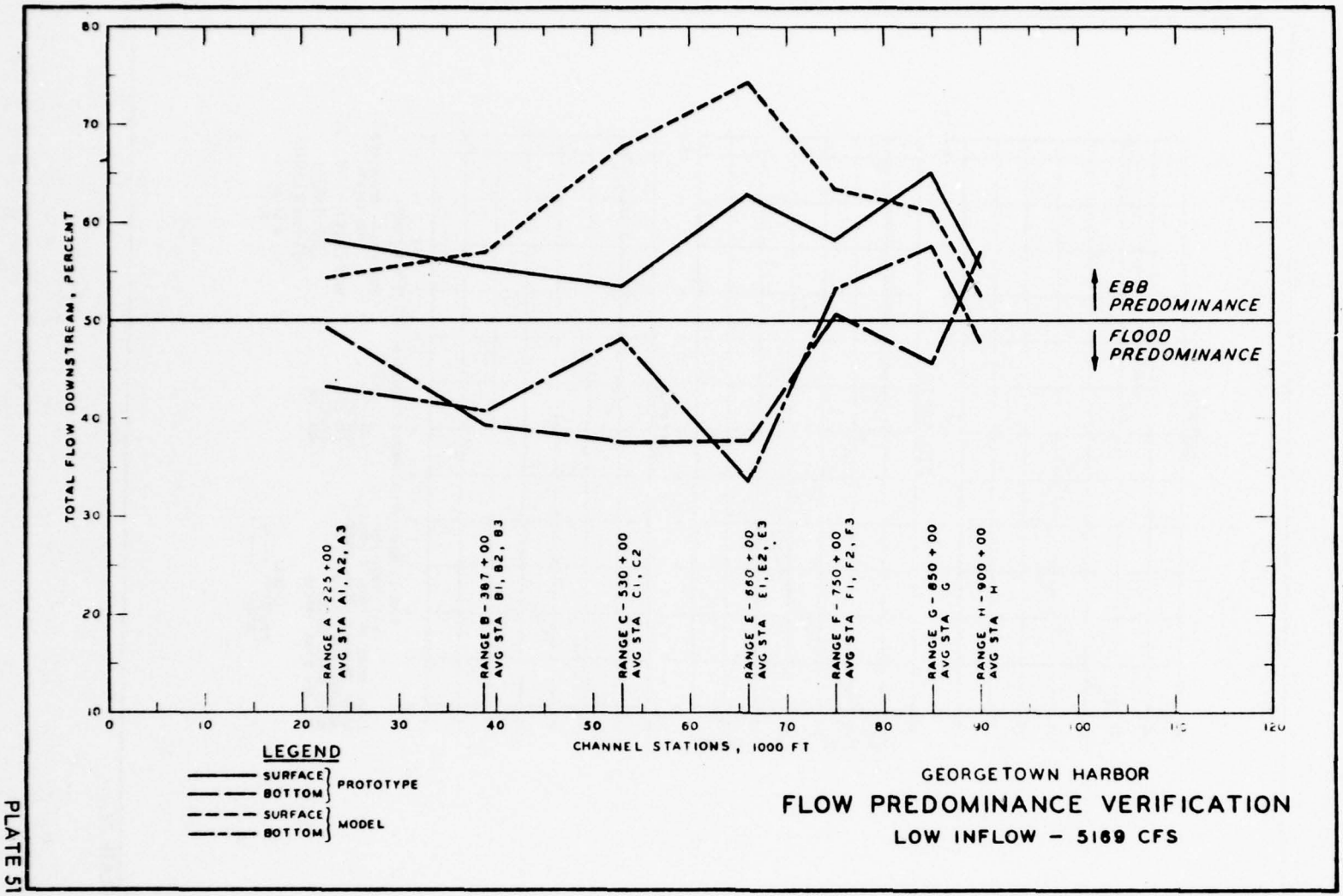
PLATE 50



GEORGETOWN HARBOR

FLOW PREDOMINANCE VERIFICATION

MEAN INFLOW - 12,732 CFS

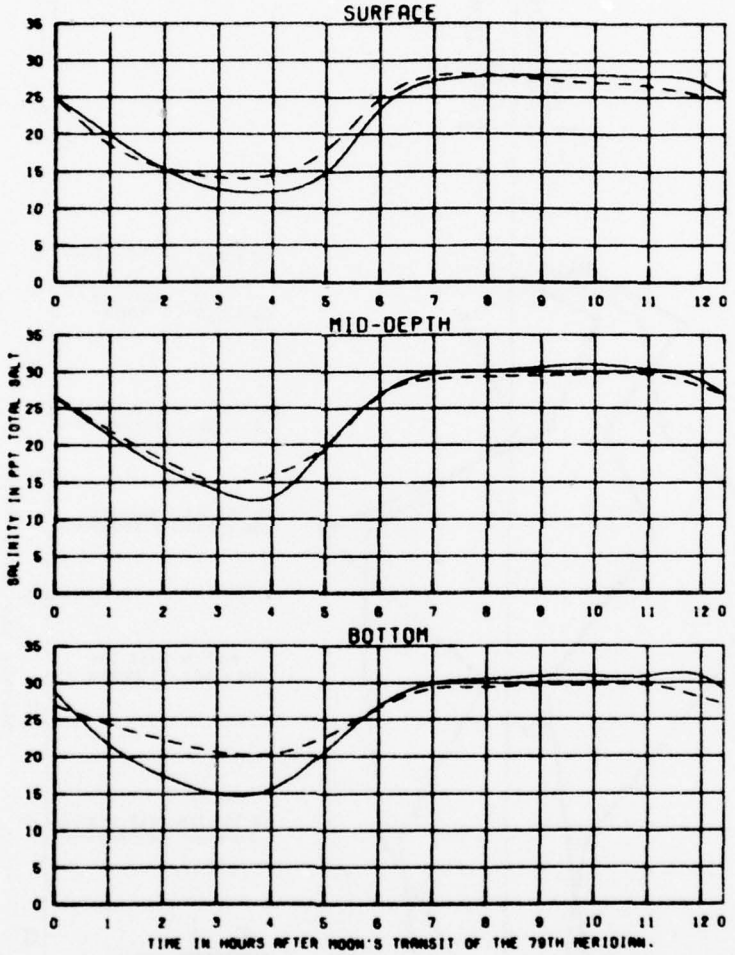


GEORGETOWN HARBOR

FLOW PREDOMINANCE VERIFICATION

LOW INFLOW – 5169 CFS

PLATE 51



TEST CONDITIONS	
TIDAL RANGE AT YAWKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	458 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

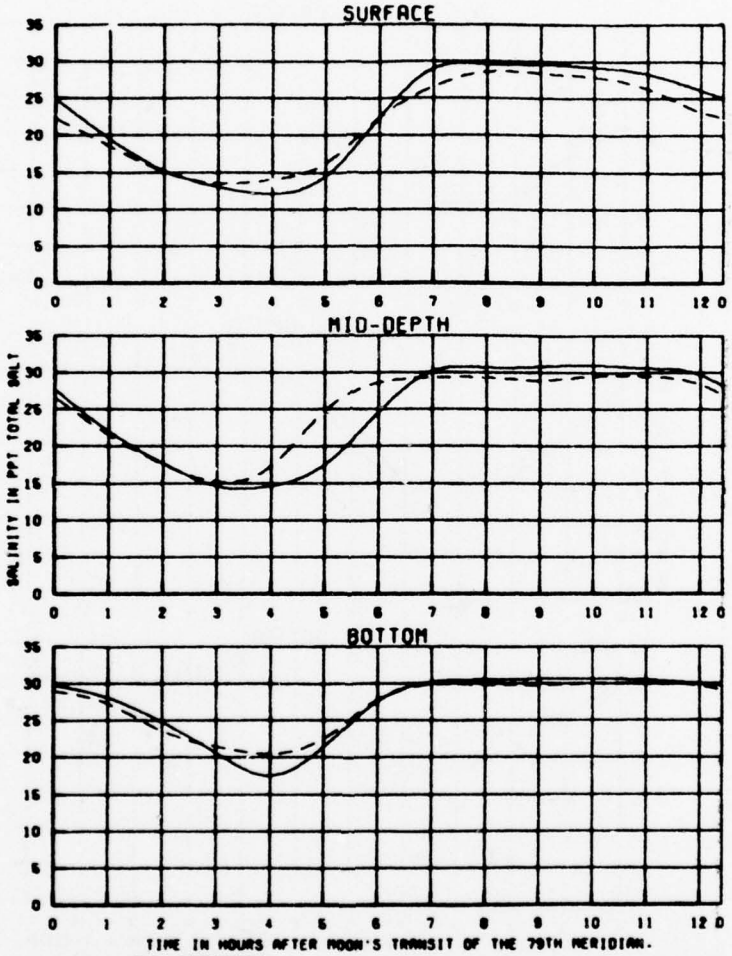
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
A1

PLATE 52



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	498 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

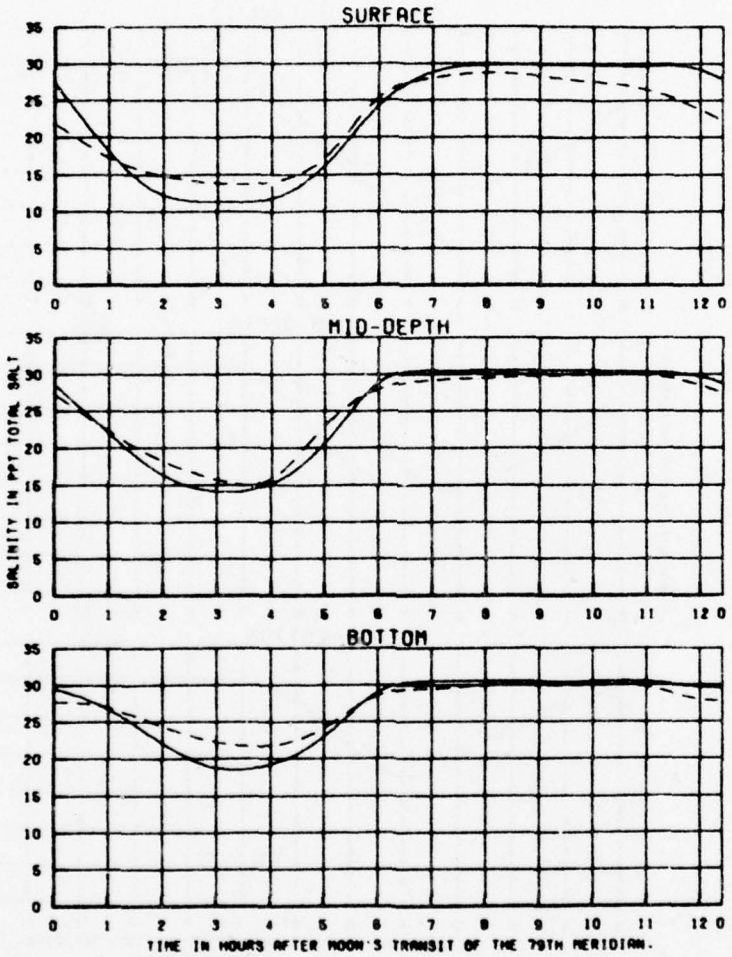
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
A2

PLATE 53



TEST CONDITIONS	
TIDAL RANGE AT YANKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11065 CFS

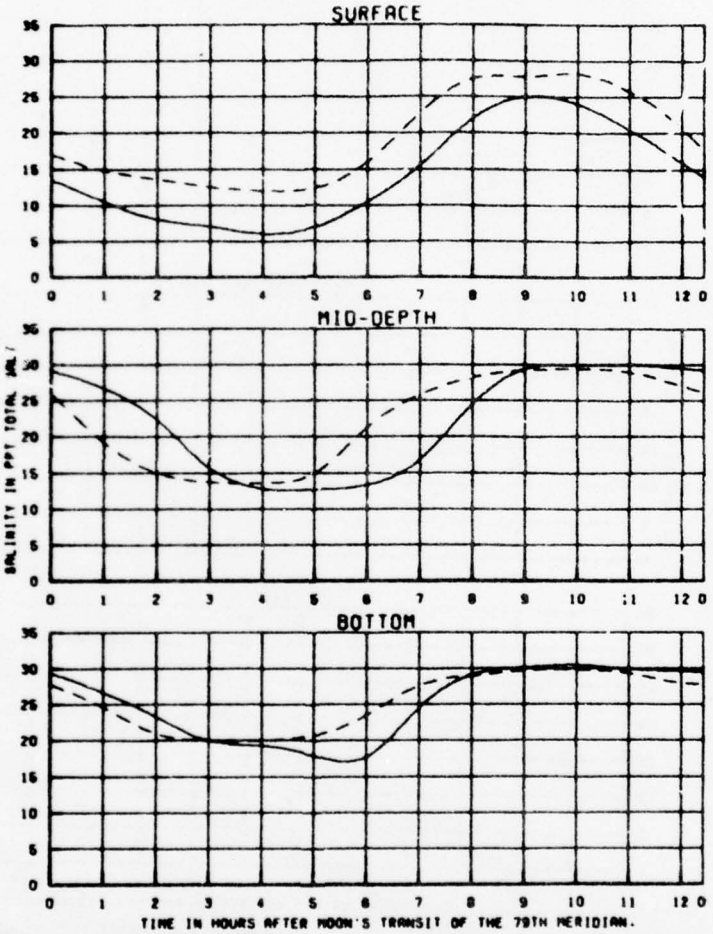
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
A3

PLATE 54



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.86 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

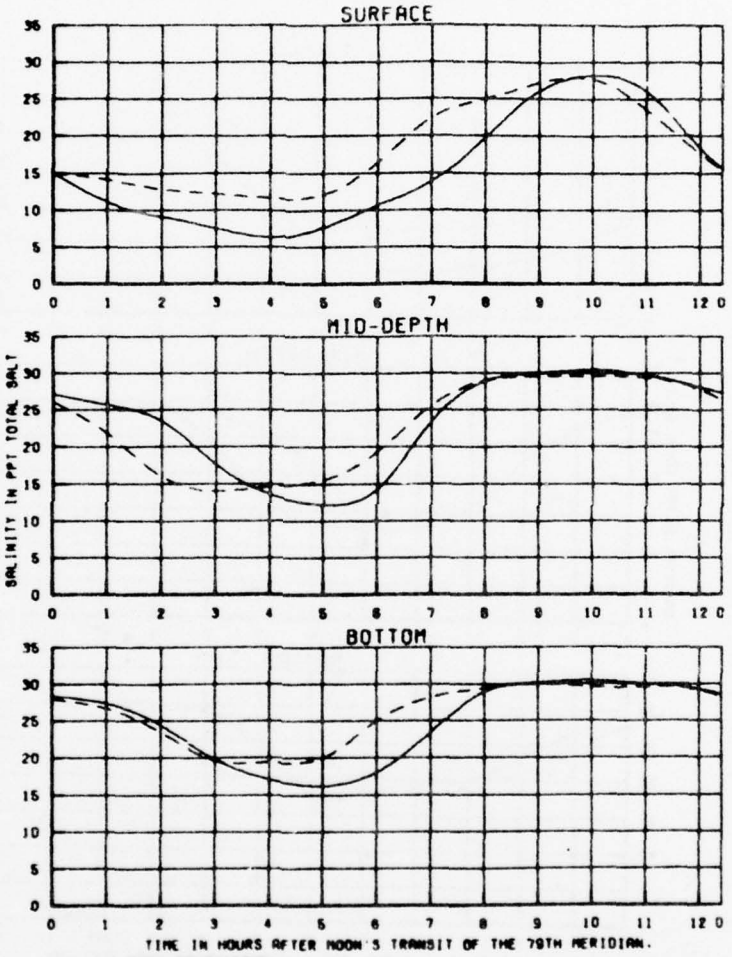
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
81

PLATE 55



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11065 CFS

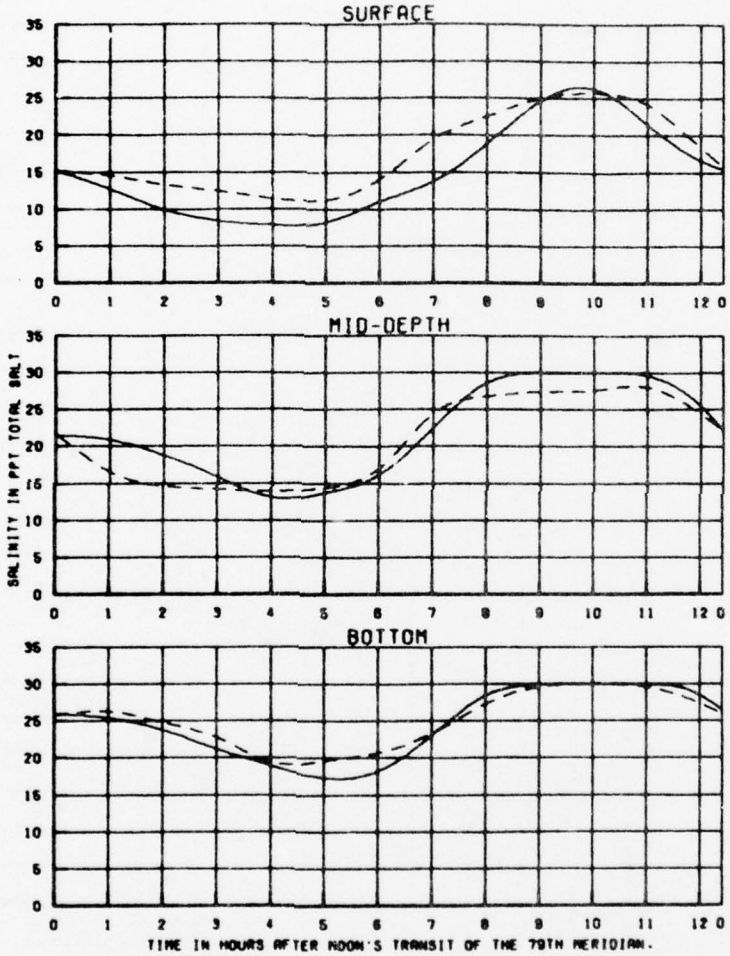
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
82

PLATE 56



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

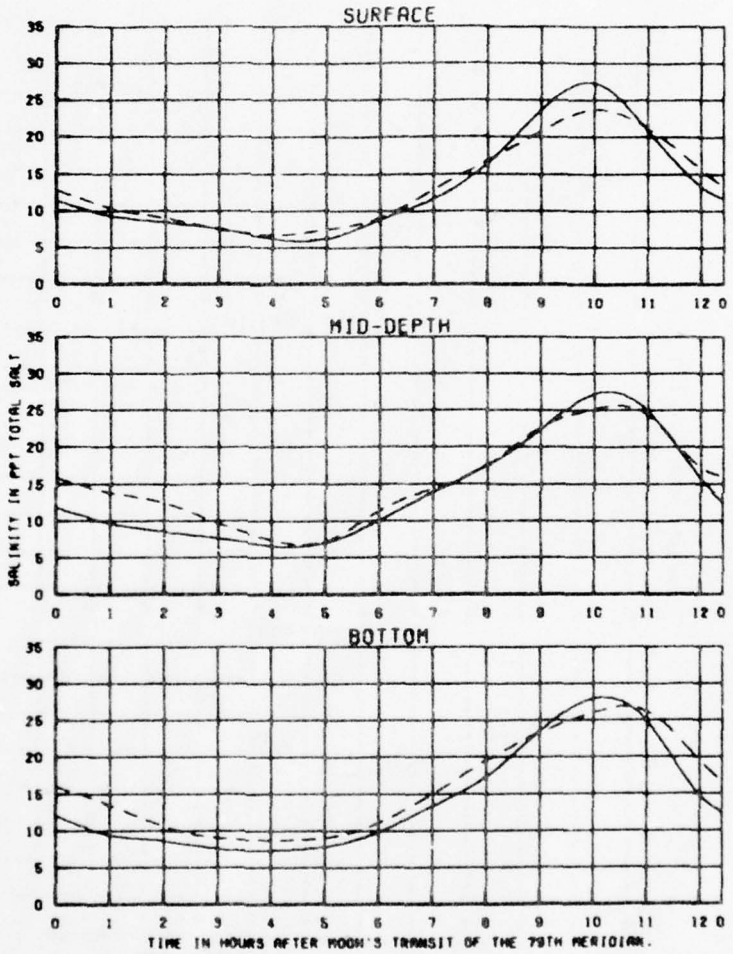
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
83

PLATE 57



TEST CONDITIONS

TIDAL RANGE AT YAMKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	439 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11868 CFS

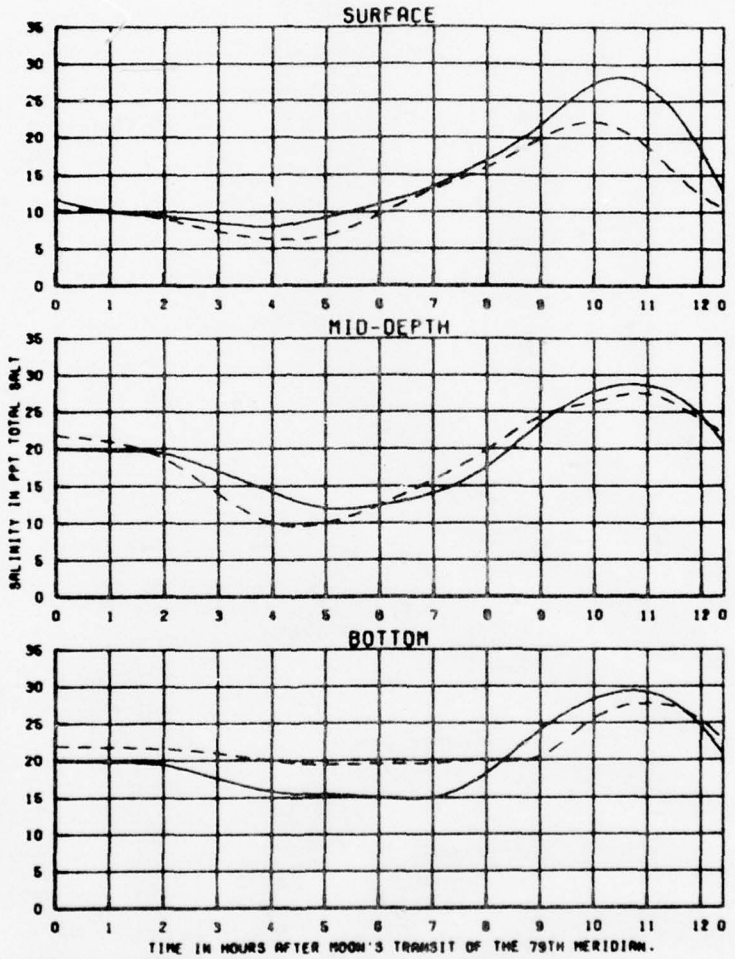
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
C1

PLATE 58



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	430 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

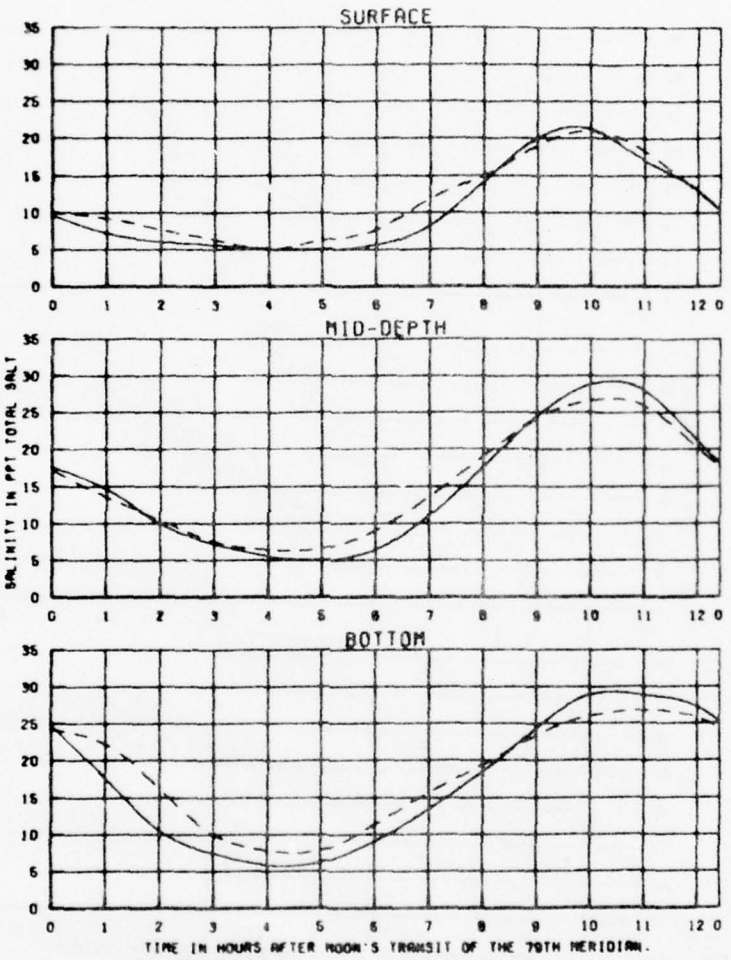
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
C2

PLATE 59



TEST CONDITIONS

TIDAL RANGE AT YEMASSEE DOCK	5.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

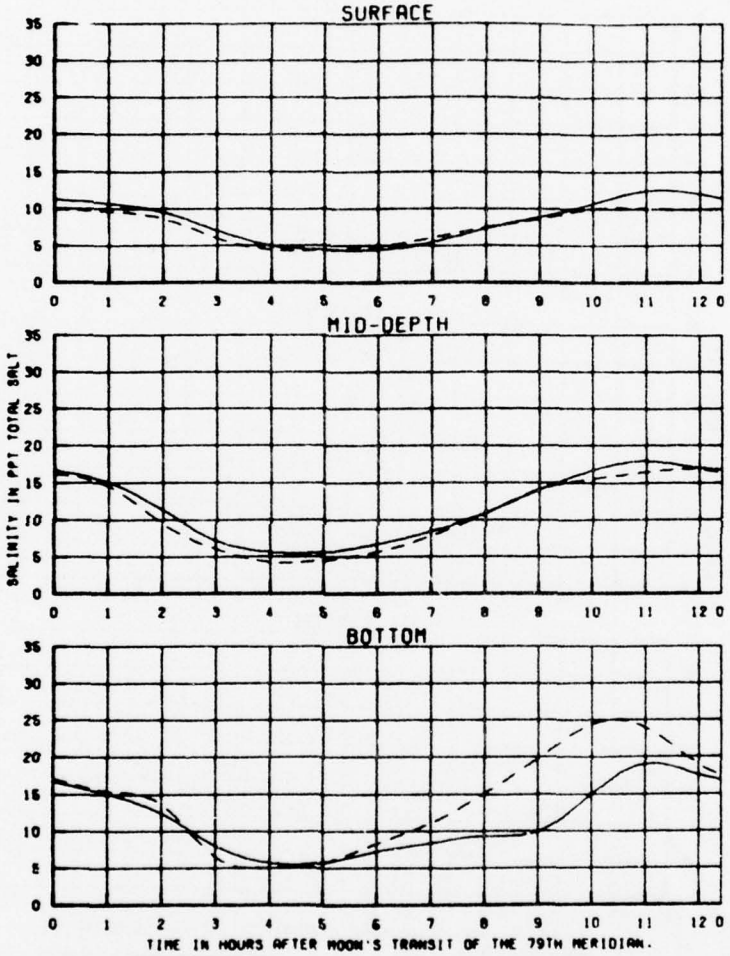
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
C4

PLATE 60



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	3.86 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	498 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

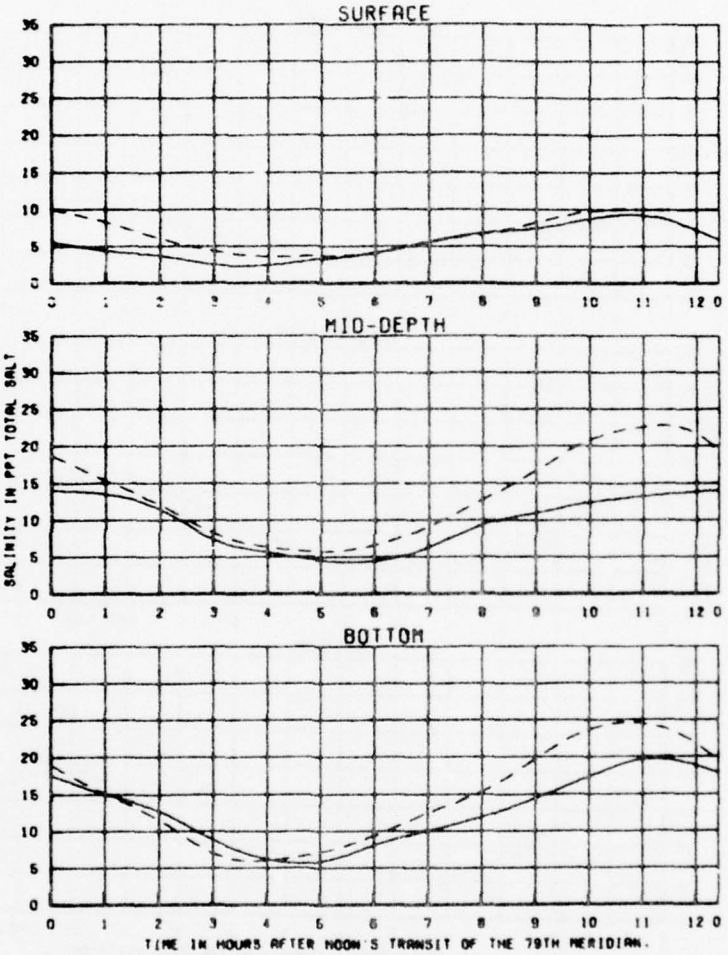
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
E1

PLATE 61



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	5.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

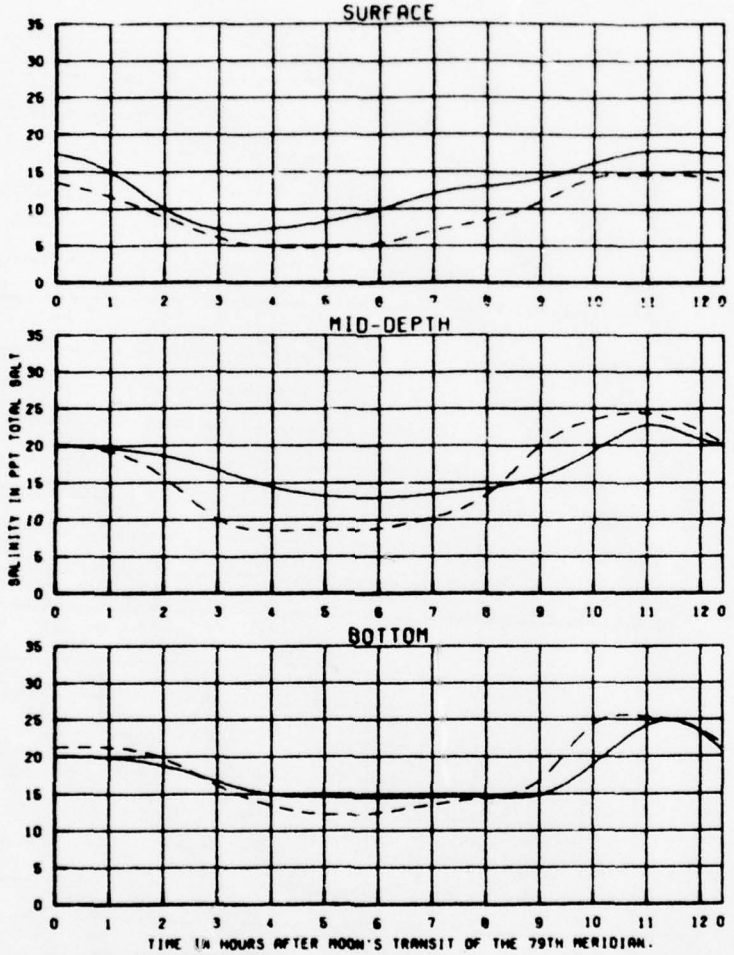
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
E2

PLATE 62



TEST CONDITIONS

TIDAL RANGE AT YEMASSEE DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

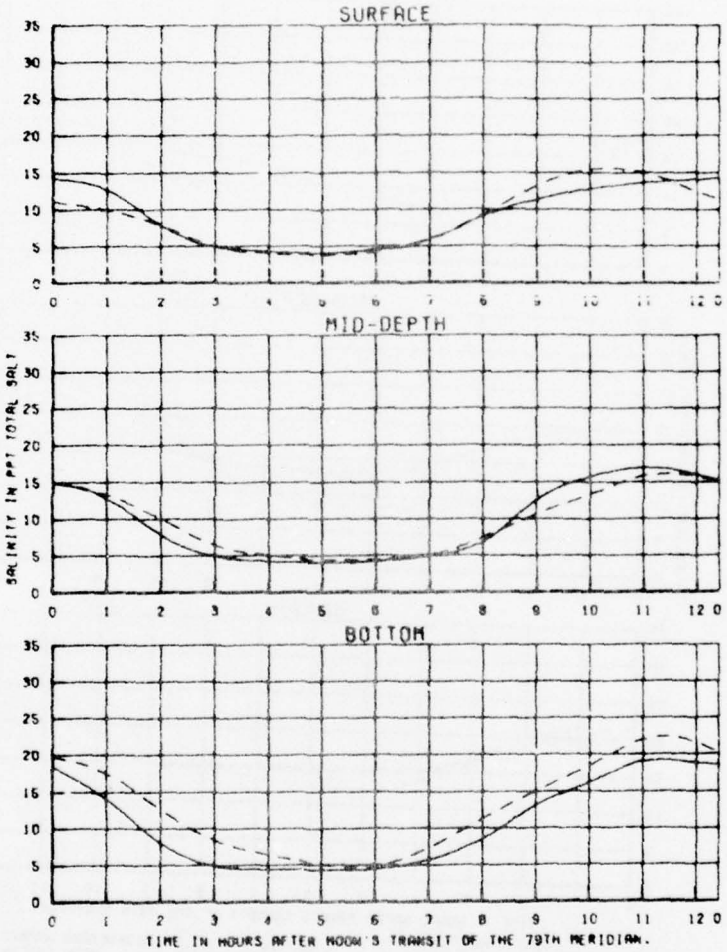
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
E3

PLATE 63



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	3.86 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

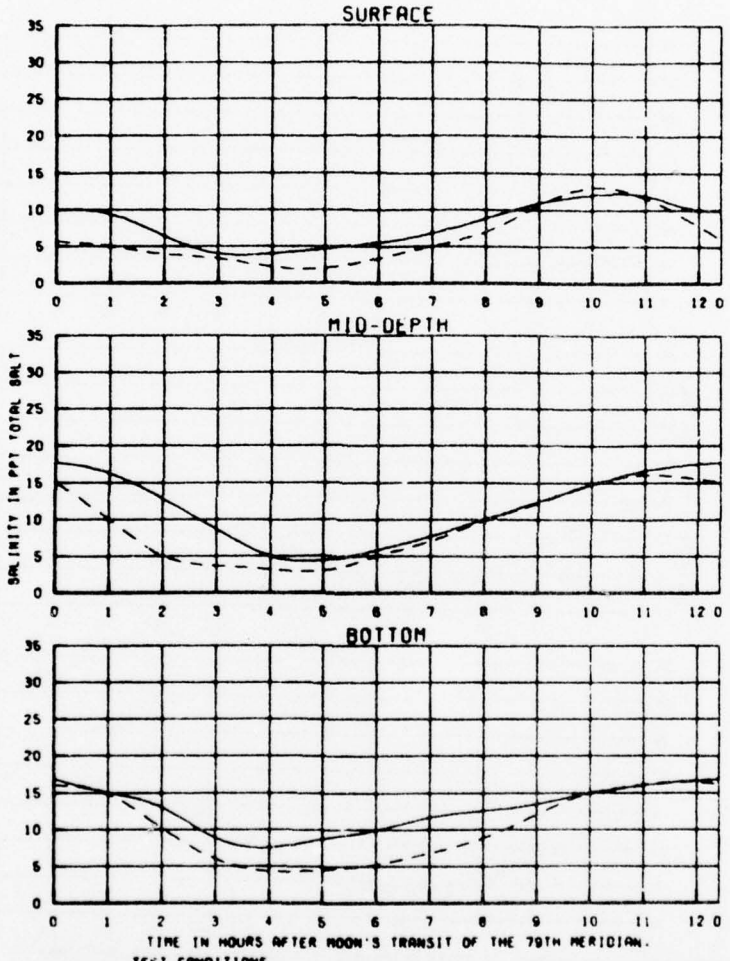
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
C4

PLATE 64



TEST CONDITIONS

TIDAL RANGE AT YAMKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	428 CFS
PEE DEE RIVER INFLOW	11085 CFS

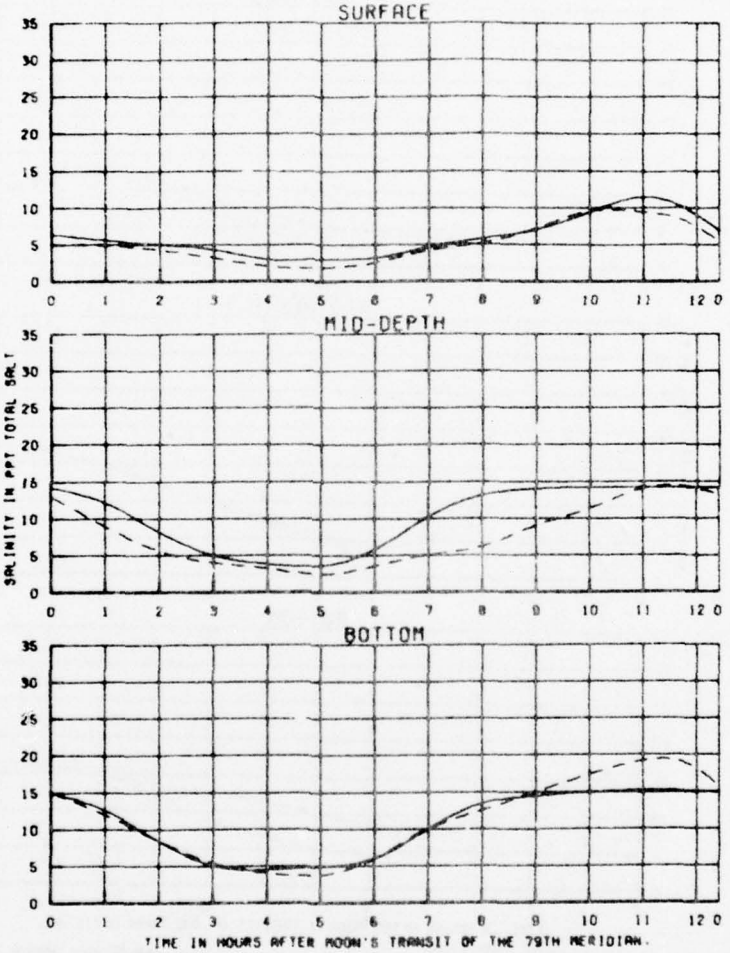
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
F1

PLATE 65



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

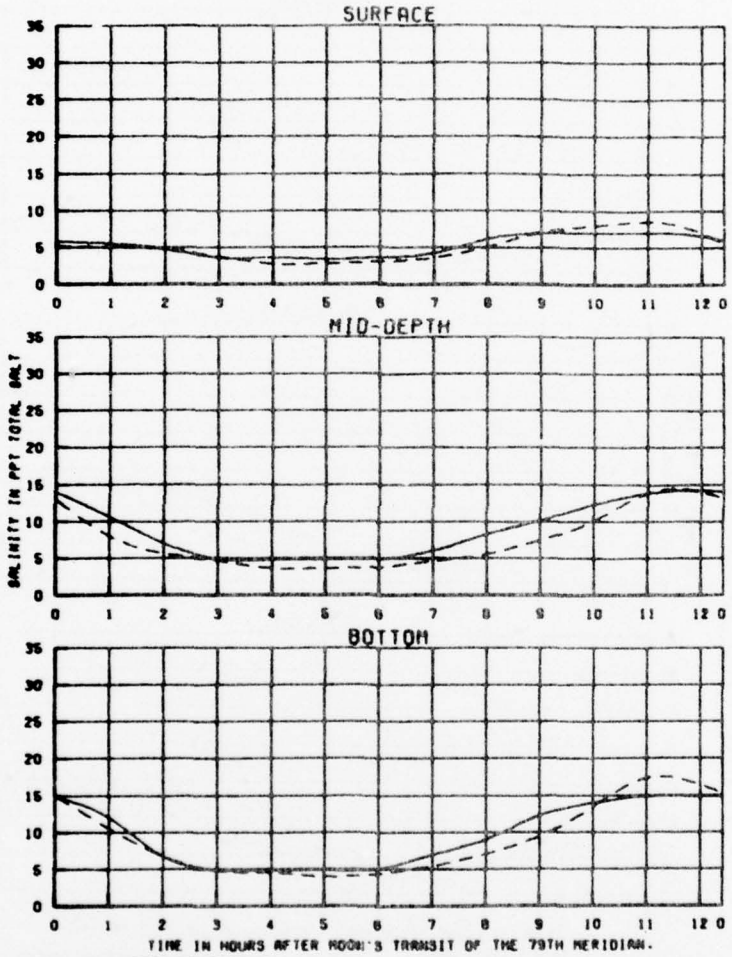
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION F2

PLATE 66



TEST CONDITIONS

TIDAL RANGE AT YEMASSEE DOCK	3.86 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	458 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11865 CFS

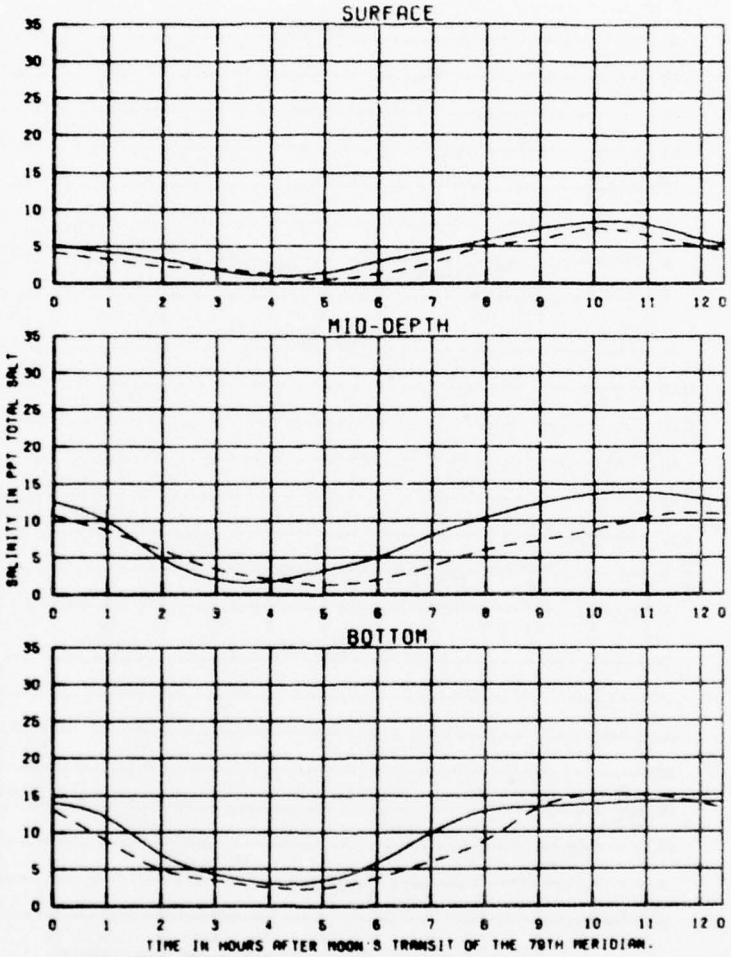
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
F3

PLATE 67



TEST CONDITIONS

TIDAL RANGE AT YEMASSEE DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	430 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11065 CFS

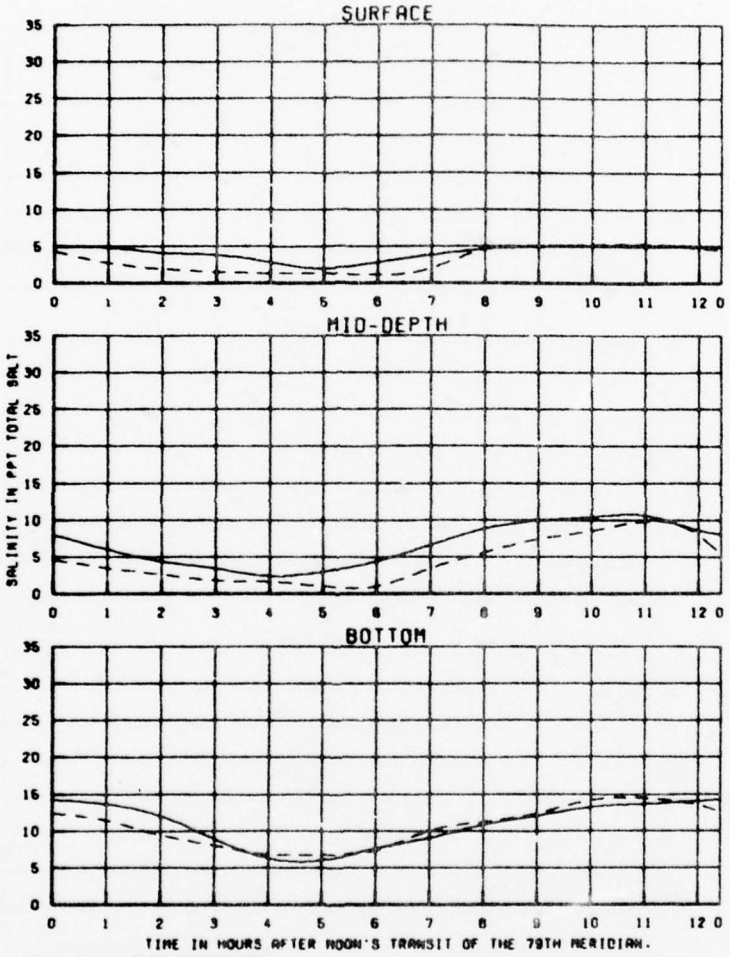
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
G

PLATE 68



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11065 CFS

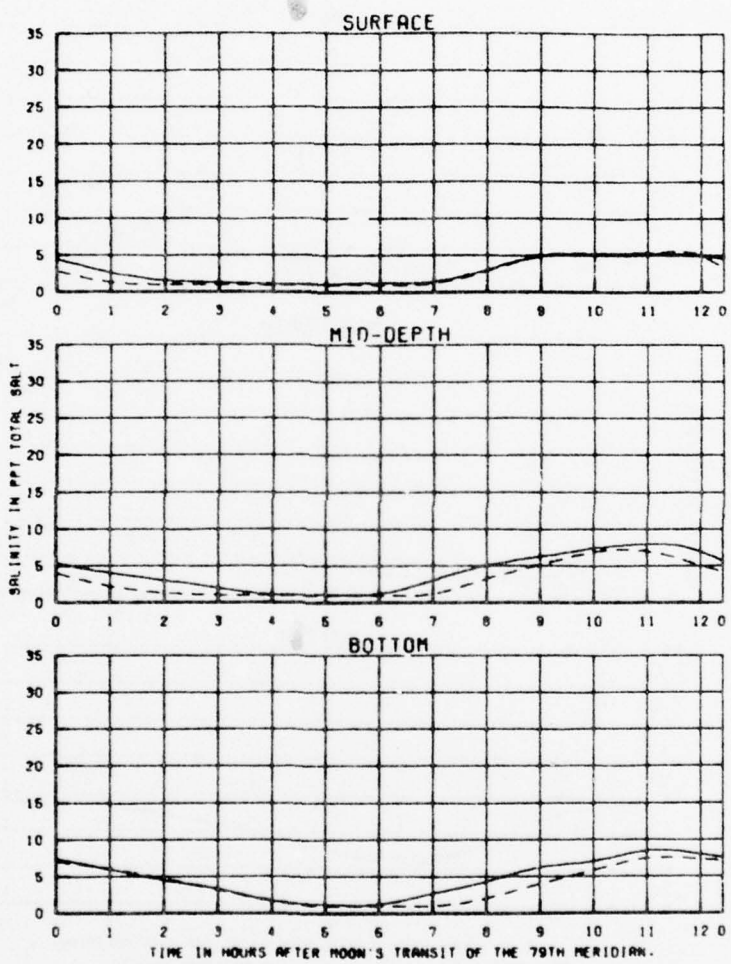
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
H

PLATE 69



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	438 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

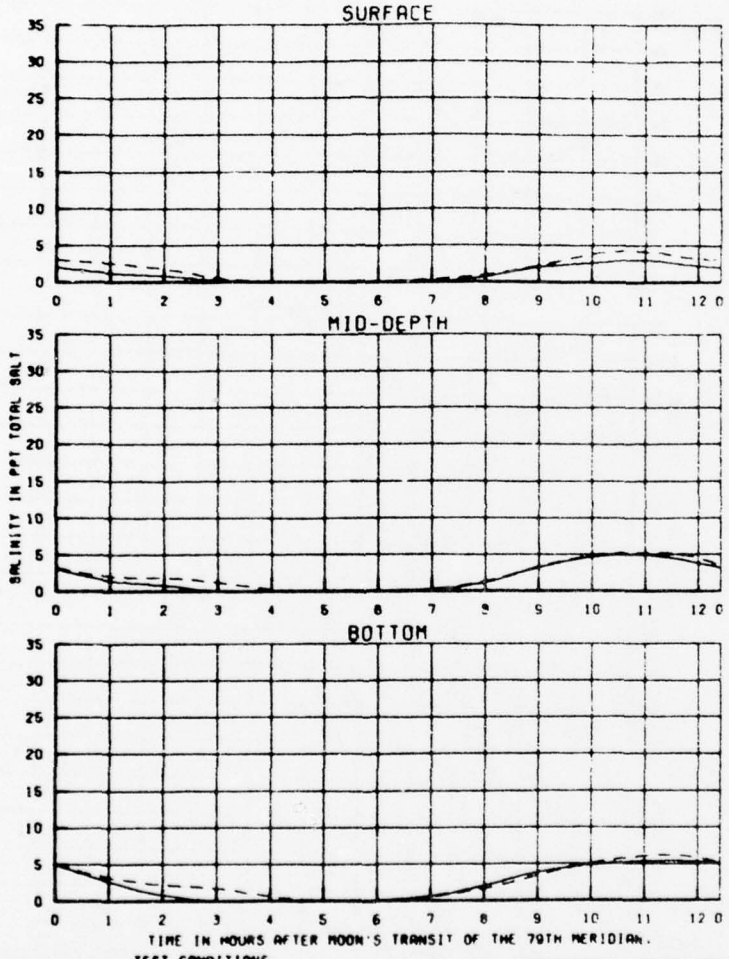
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
1

PLATE 70



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	3.85 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	498 CFS
BLACK RIVER INFLOW	429 CFS
PEE DEE RIVER INFLOW	11866 CFS

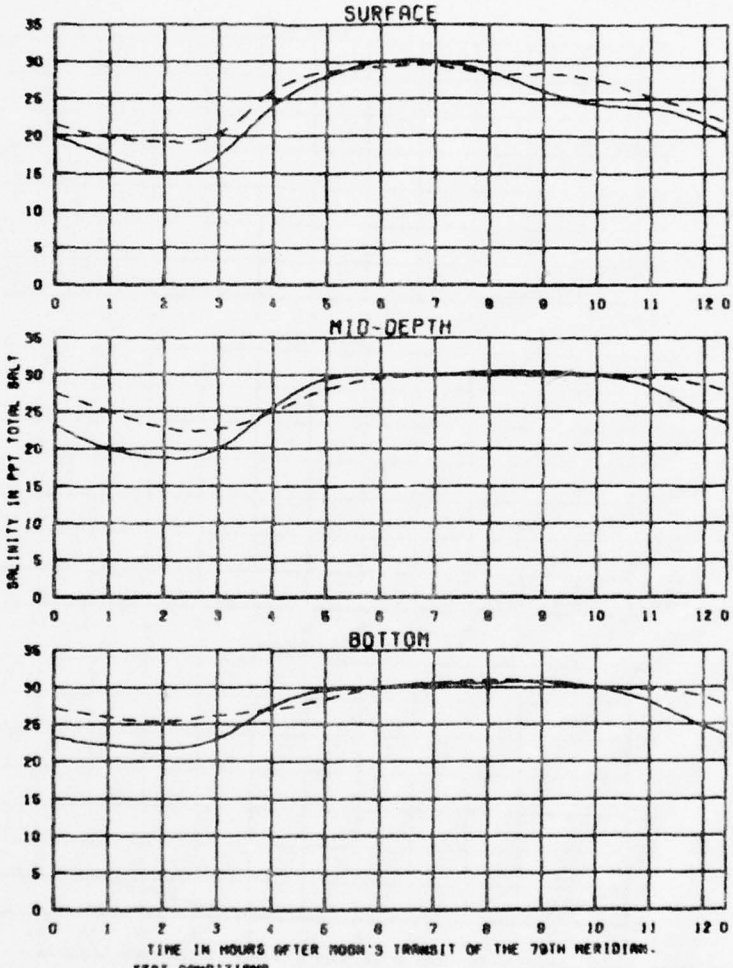
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
MEAN INFLOW

VERIFICATION OF
SALINITY
OBSERVATIONS

STATION

PLATE 71



TEST CONDITIONS

TIDAL RANGE AT YAMACRAW DOCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

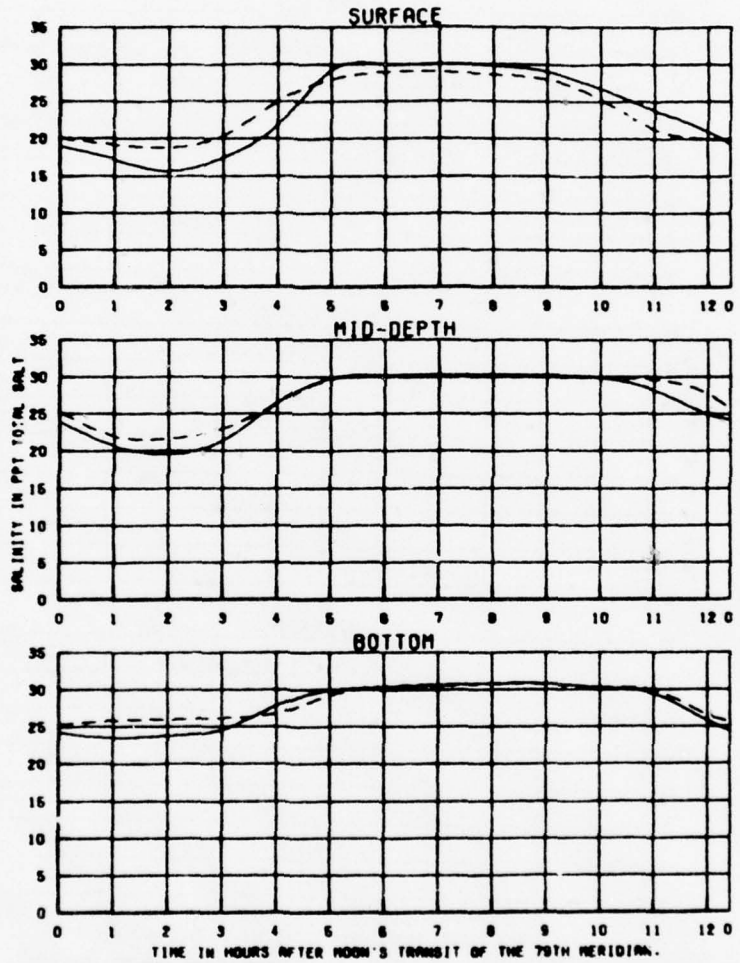
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
A1

PLATE 72



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	182 CFS

LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
A2

PLATE 73

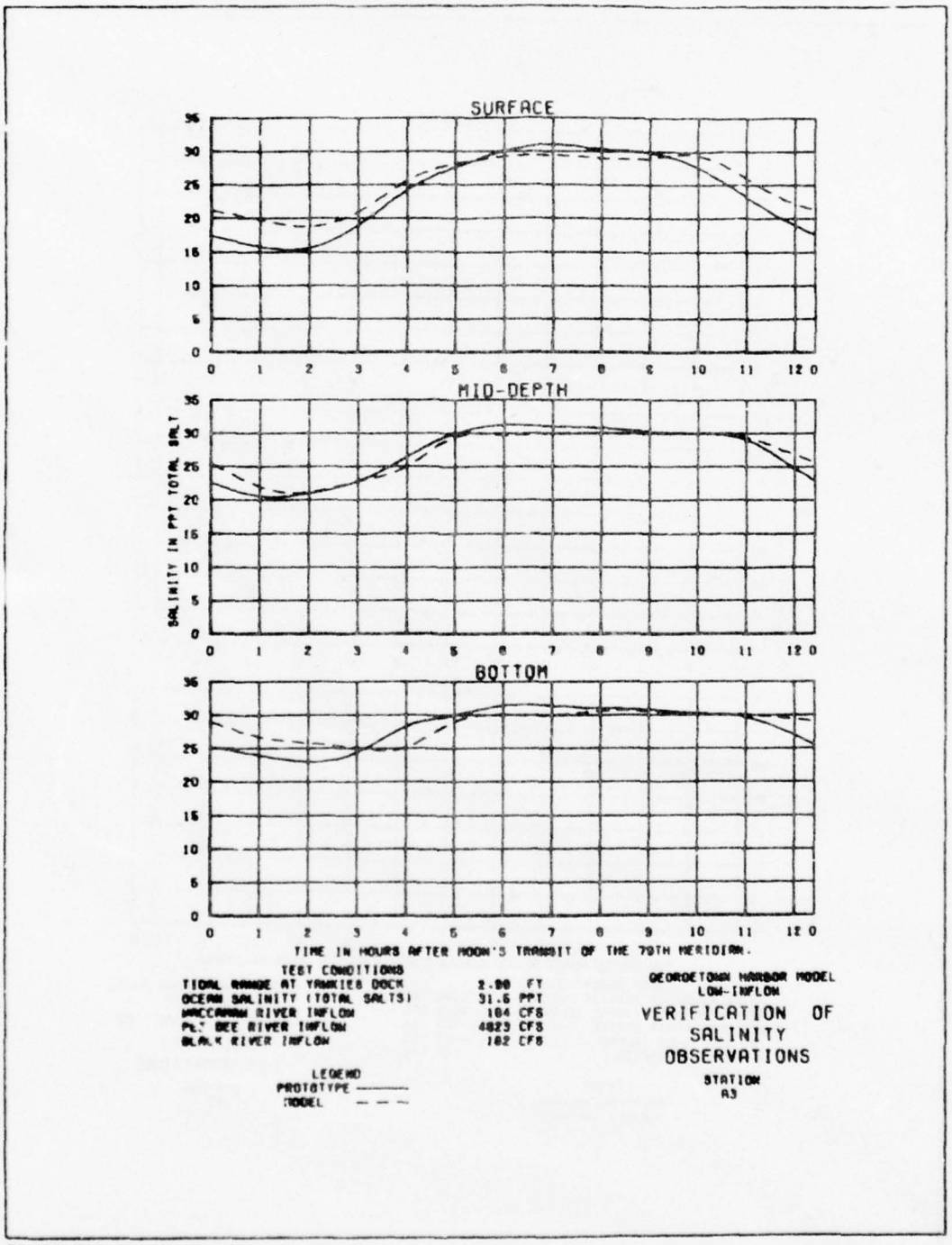
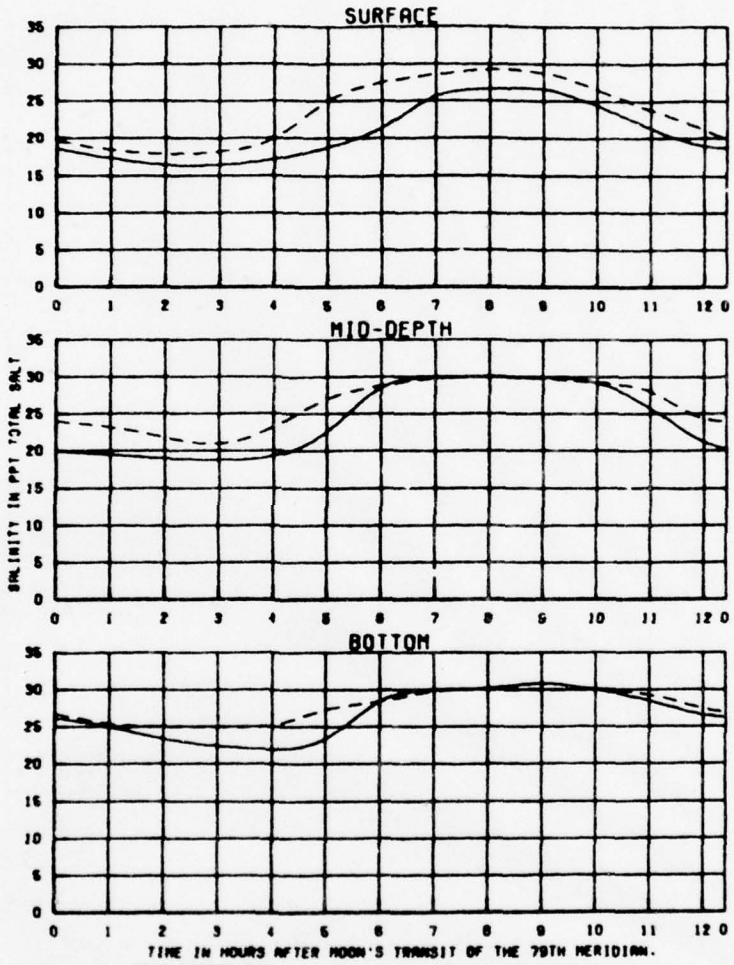

SURFACE
MID-DEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKEE DOCK 2.90 FT
OCEAN SALINITY (TOTAL SALTS) 31.6 PPT
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 182 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF
SALINITY
OBSERVATIONS
STATION
A3

PLATE 74



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

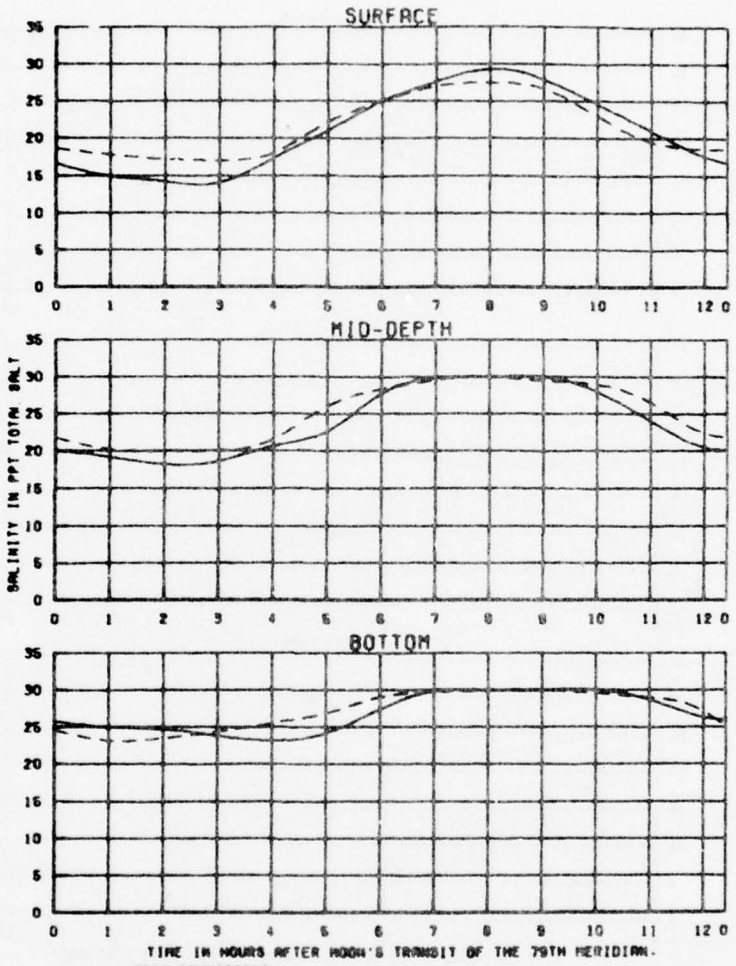
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
B1

PLATE 75



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.99 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

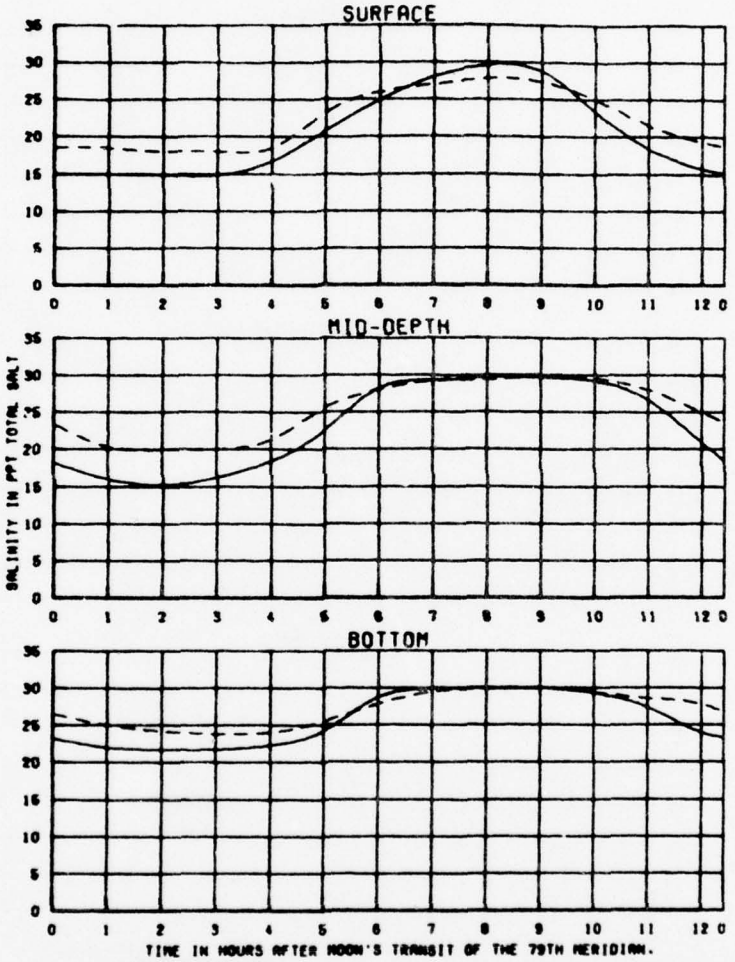
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
B2

PLATE 76



TEST CONDITIONS

TIDAL RANGE AT YRARIES DOCK	2.00 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
[illegible]CCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	182 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
83

PLATE 77

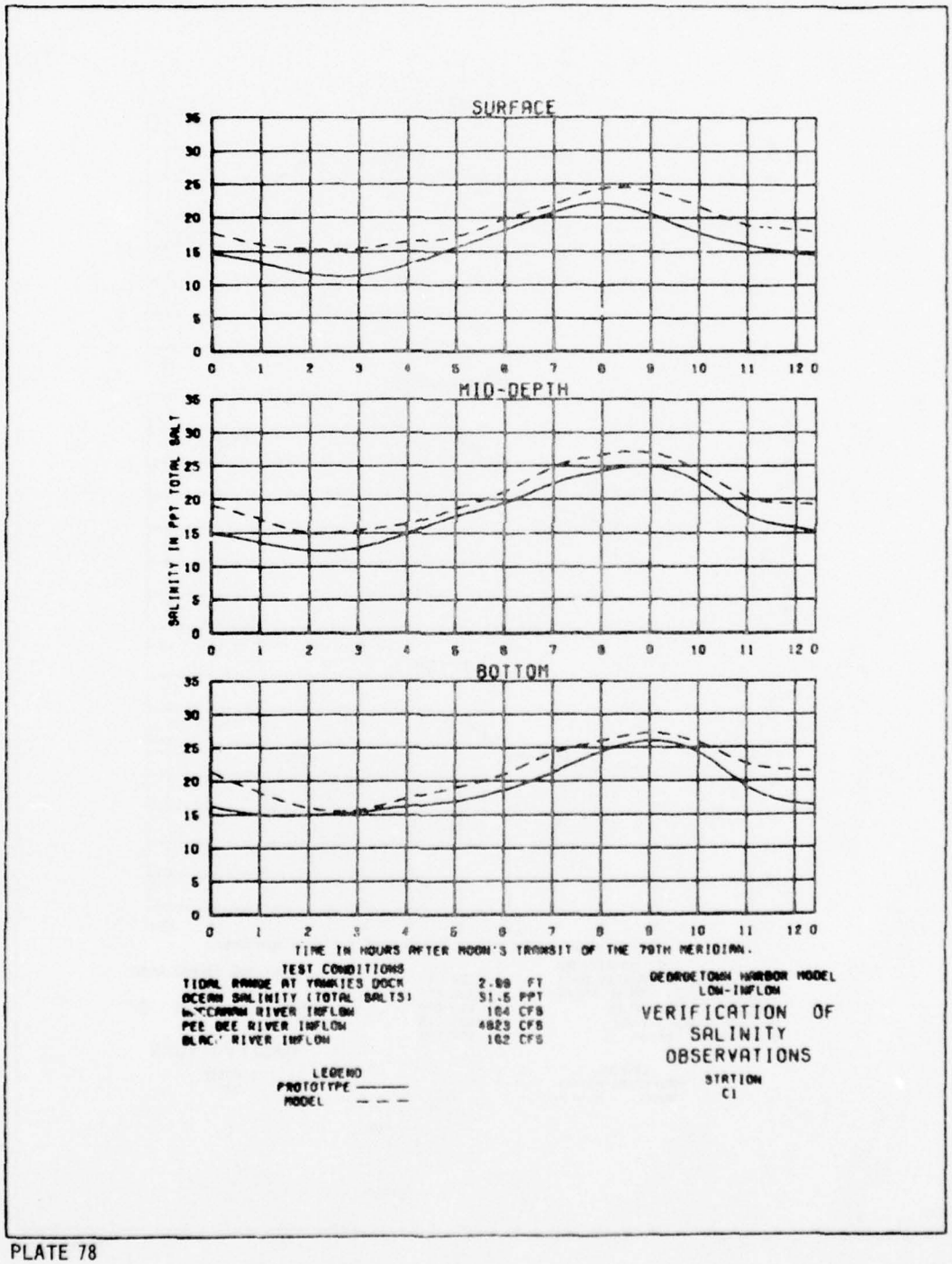

SURFACE
MID-DEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
0 5 10 15 20 25 30 35
0 1 2 3 4 5 6 7 8 9 10 11 12 0
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 79TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YANKIES DOCK 2.88 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE ———
MODEL – – –
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF
SALINITY
OBSERVATIONS
STATION
C1

PLATE 78

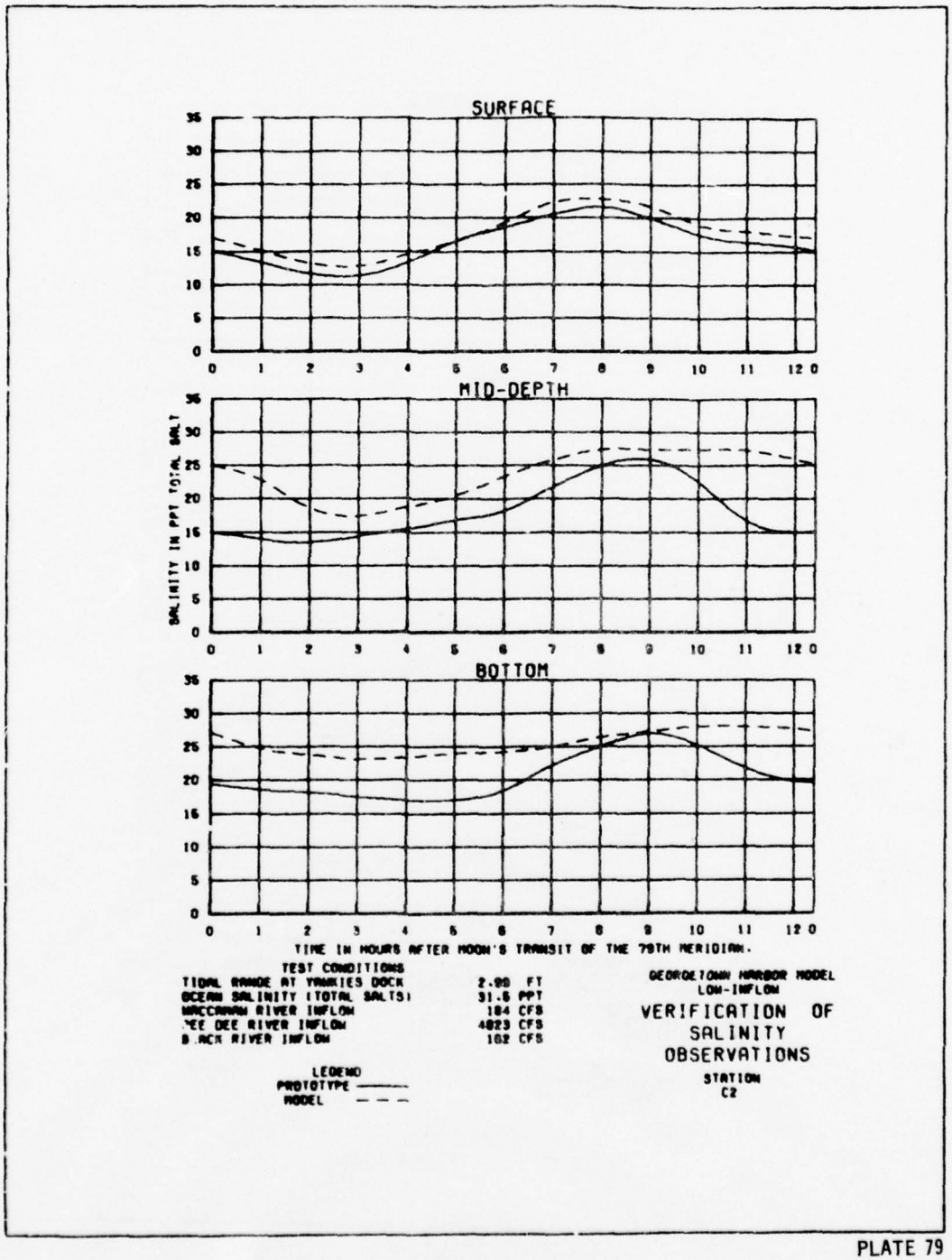
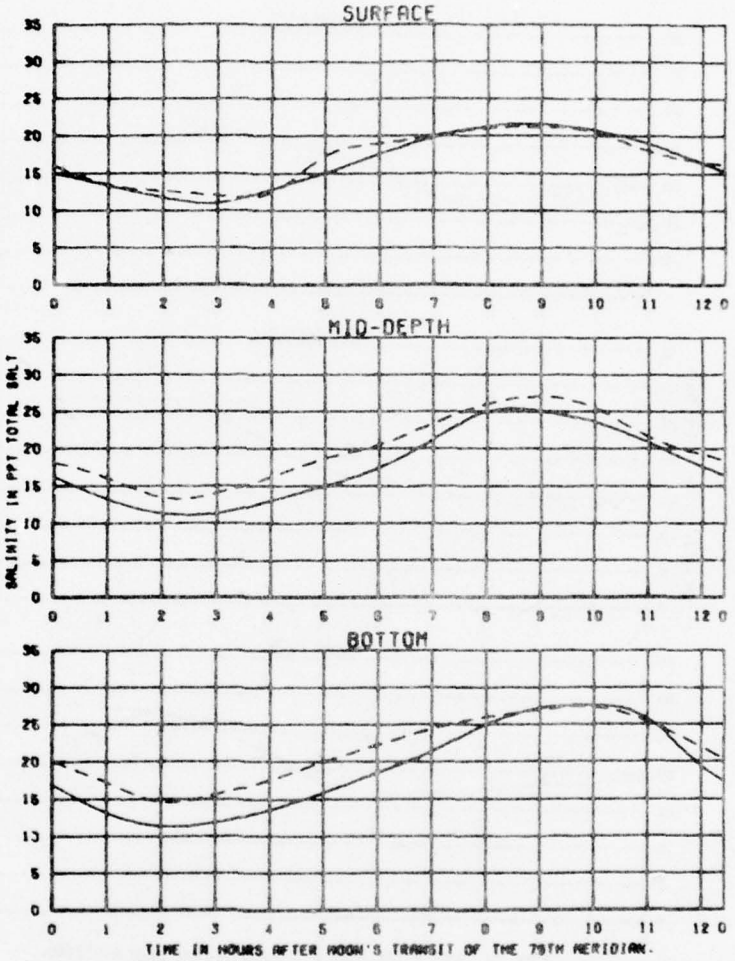

SURFACE
MID-DEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
0 5 10 15 20 25 30 35
0 1 2 3 4 5 6 7 8 9 10 11 12 0
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YAWKIES DOCK 2.98 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
WACCAMAW RIVER INFLOW 184 CFS
YEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF
SALINITY
OBSERVATIONS
STATION
C2

PLATE 79



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	2.89 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4883 CFS
BLACK RIVER INFLOW	162 CFS

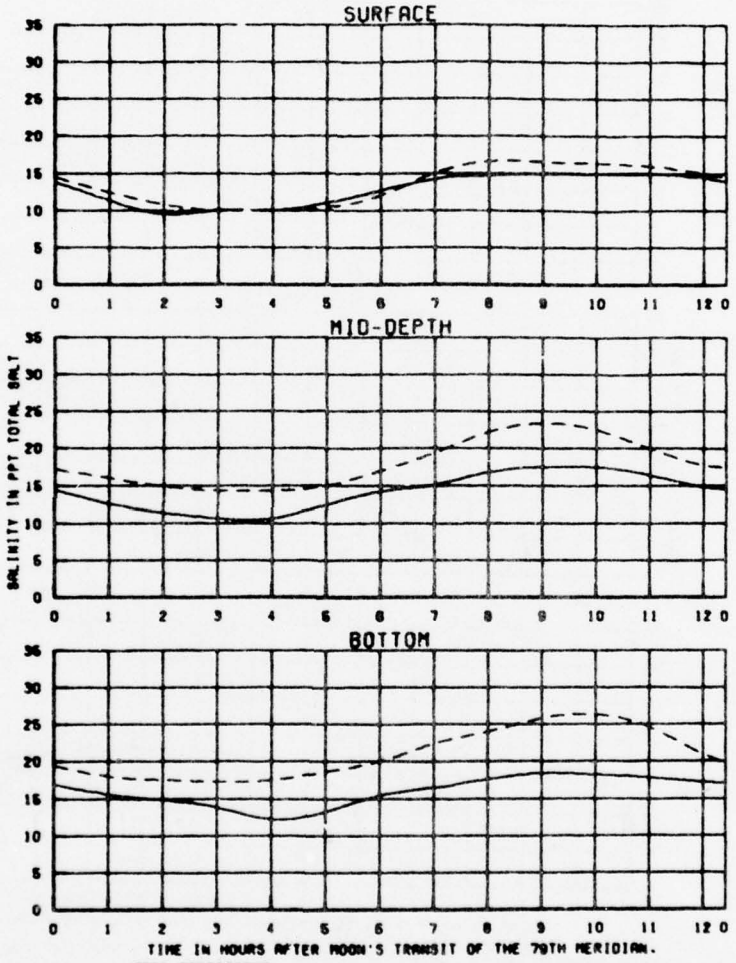
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
C4

PLATE 80



TEST CONDITIONS

TIDAL RANGE AT YAWKIES DOCK	2.99 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

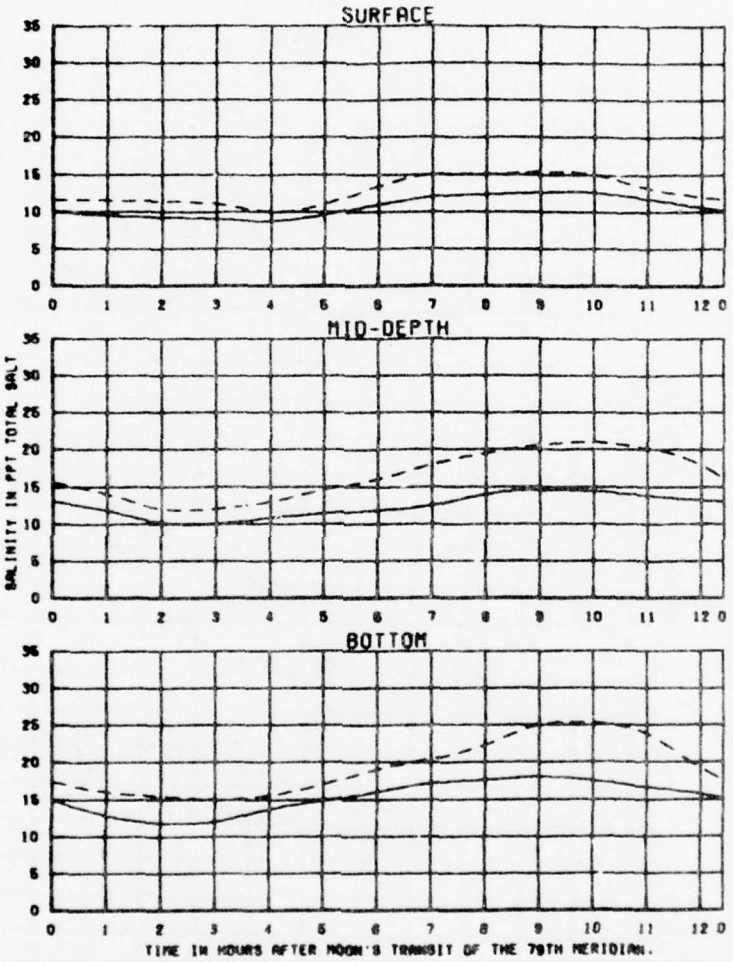
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
E1

PLATE 81



TEST CONDITIONS

TIDAL RANGE AT YANKEE DOCK	2.99 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
MACHIAS RIVER INFLOW	164 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

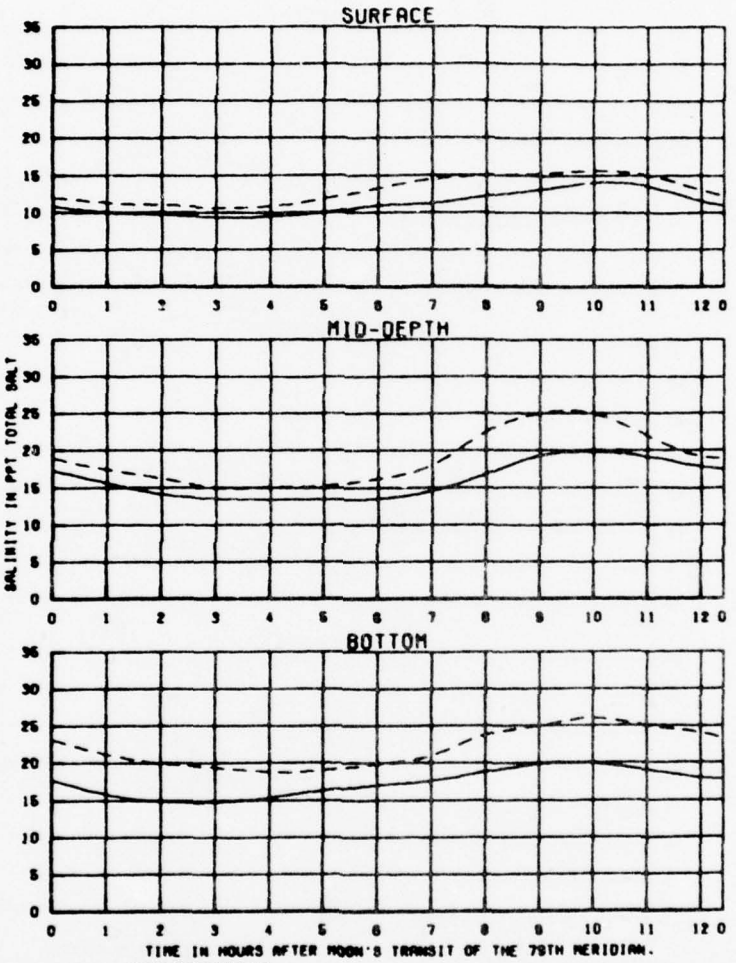
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
E2

PLATE 82



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

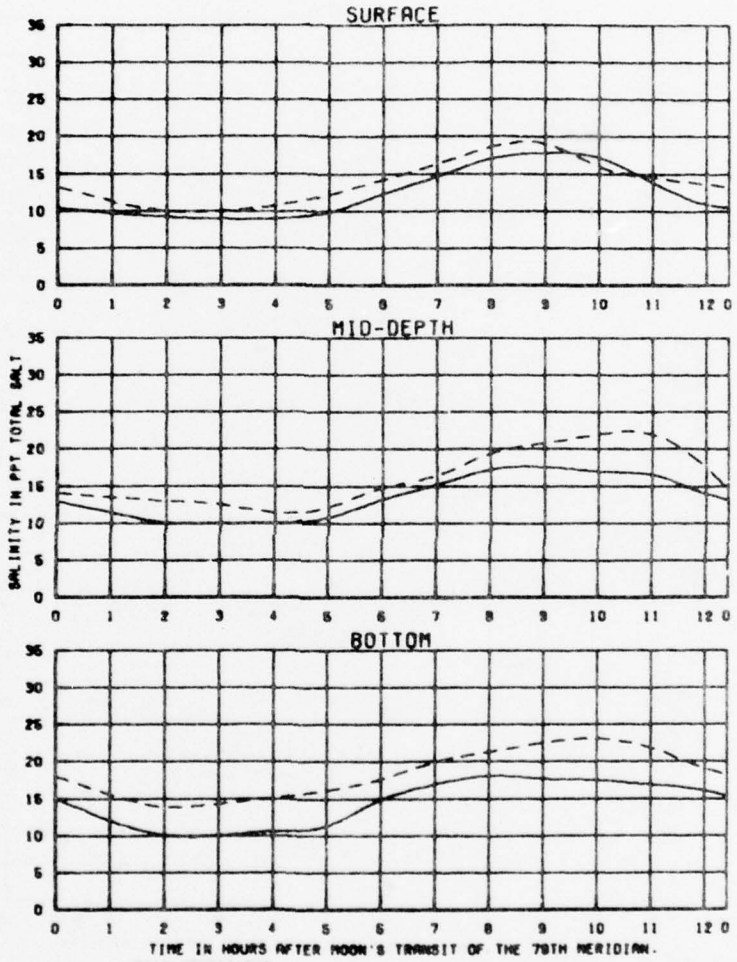
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
E3

PLATE 83



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.90 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4023 CFS
BLACK RIVER INFLOW	162 CFS

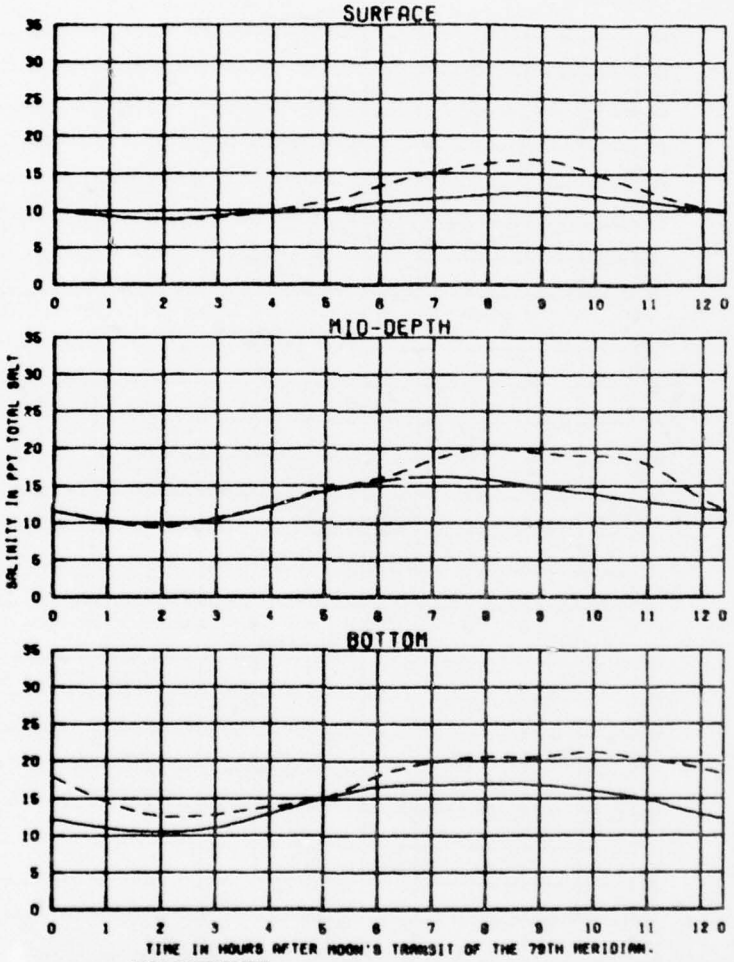
LEGEND
PROTOTYPE ———
MODEL — — —

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
E4

PLATE 84



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
[illegible]CCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	182 CFS

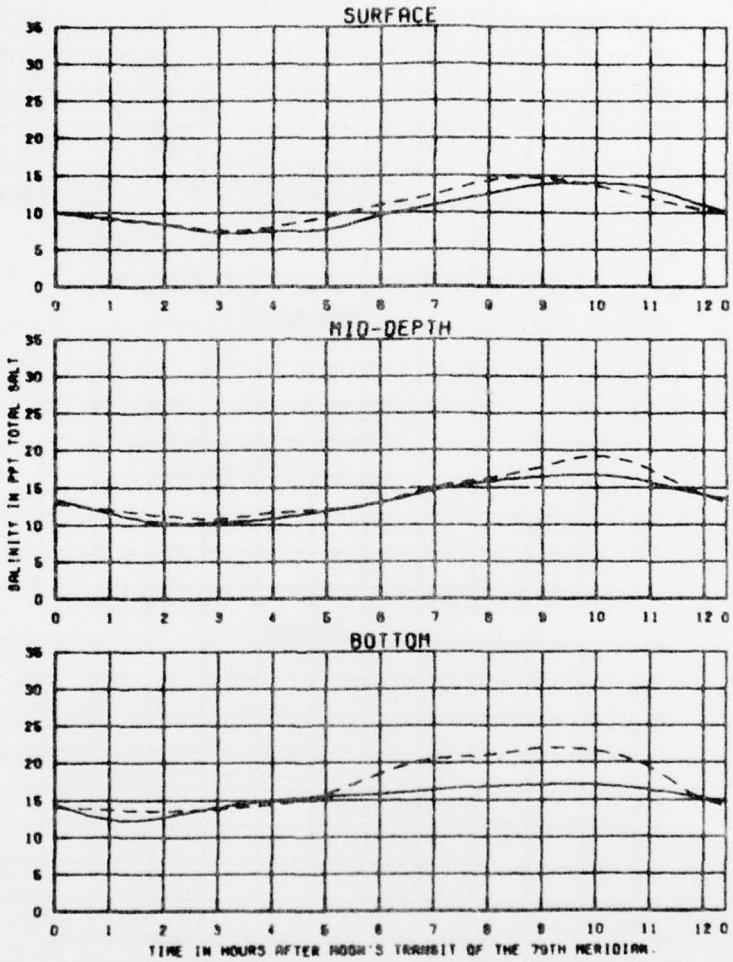
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
F1

PLATE 85



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.58 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

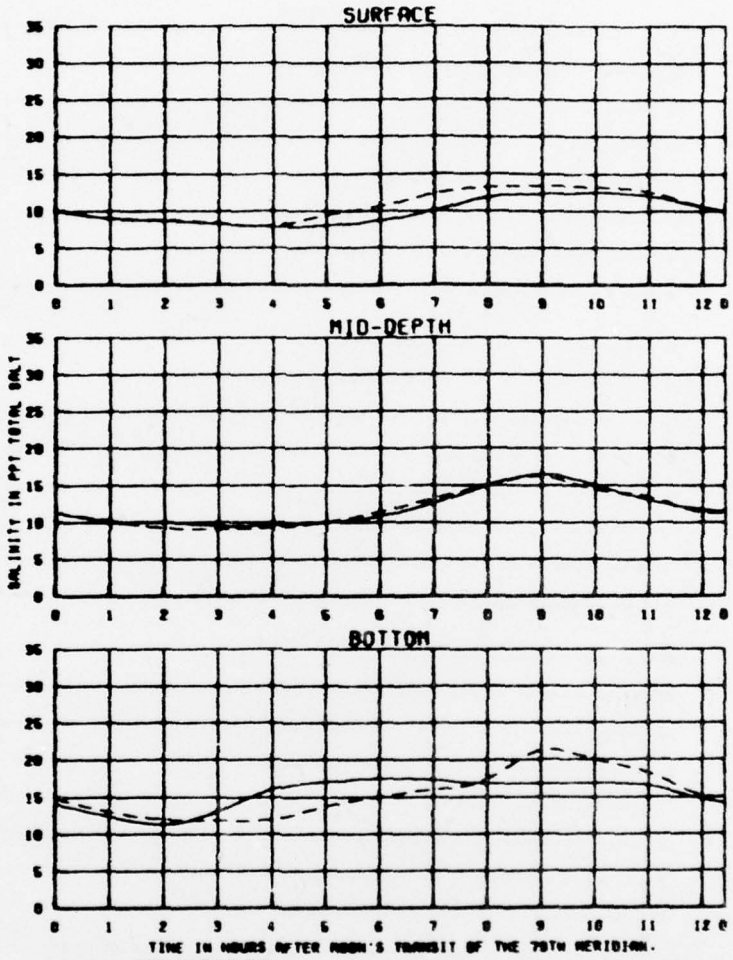
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
F2

PLATE 86



TEST CONDITIONS

TIDAL RANGE AT YAQUINA ROCK	2.98 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WILLAMETTE RIVER INFLOW	184 CFS
YAQUINA RIVER INFLOW	4829 CFS
BLANCO RIVER INFLOW	182 CFS

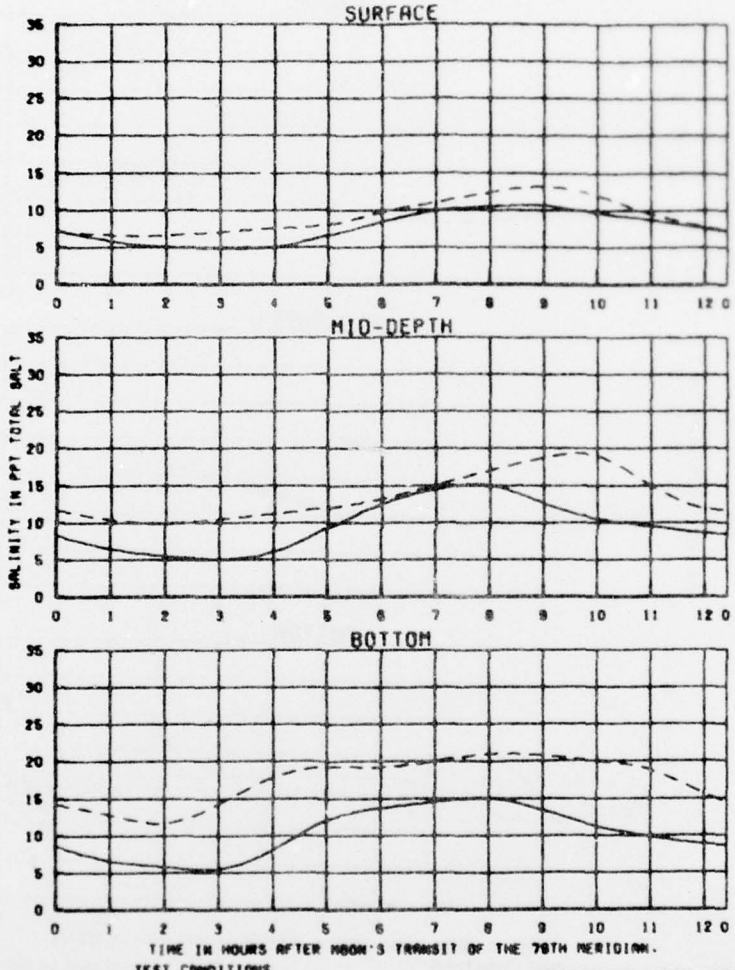
LEGEND
PROTOTYPE ———
MODEL – – –

SEASIDE TOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION F3

PLATE 87



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.88 FT
OCEAN SALIGITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

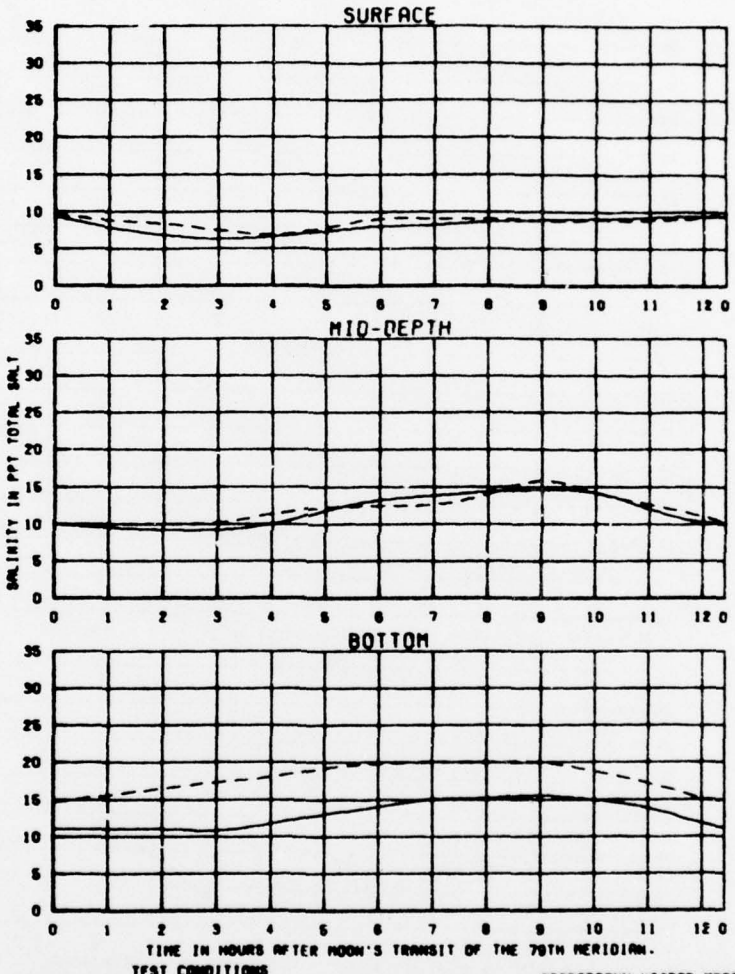
LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
0

PLATE 88



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.90 FT
OCEAN SALINITY (TOTAL SALTS)	31.6 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK RIVER INFLOW	162 CFS

LEGEND
PROTOTYPE ———
MODEL – – –

GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
H

PLATE 89

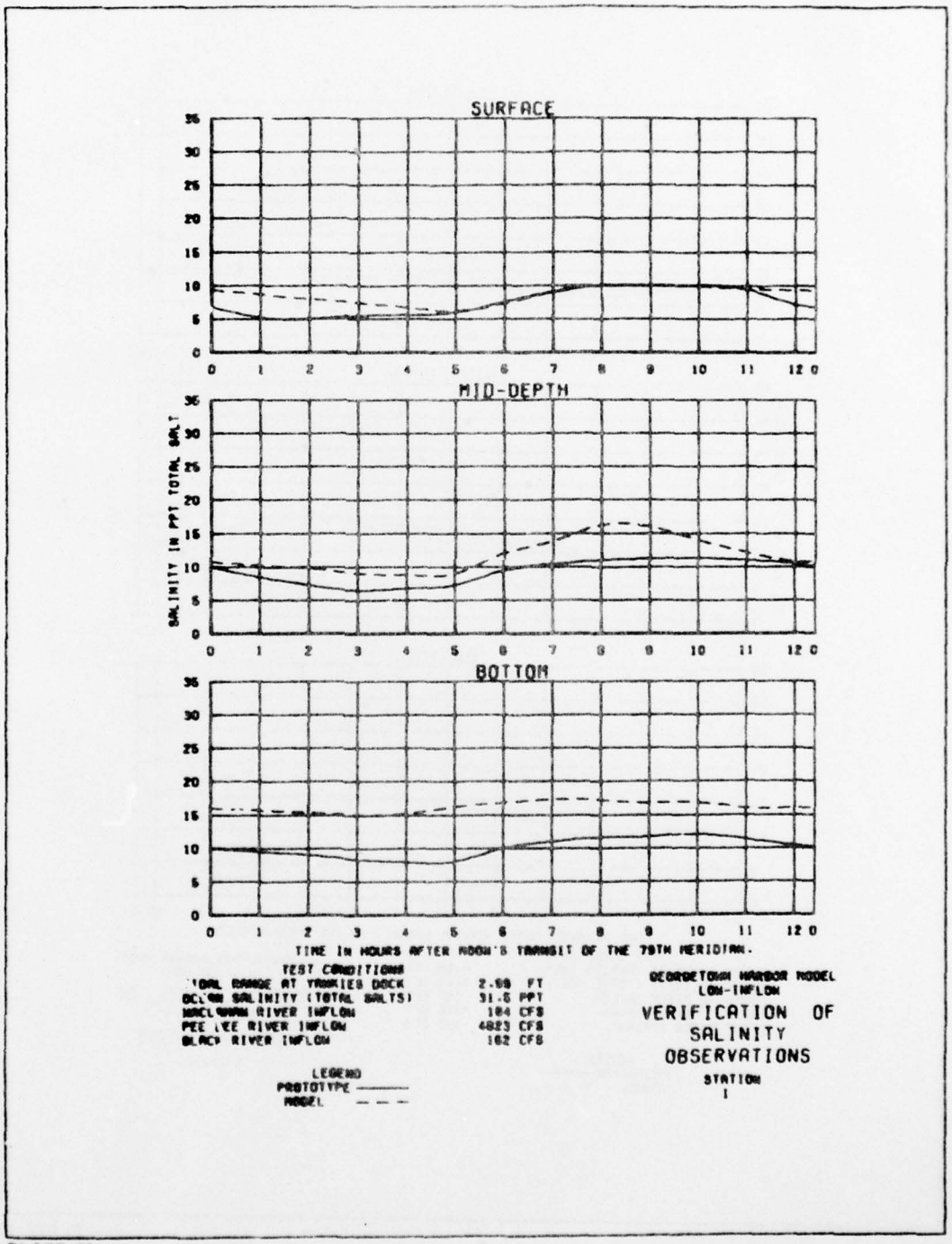
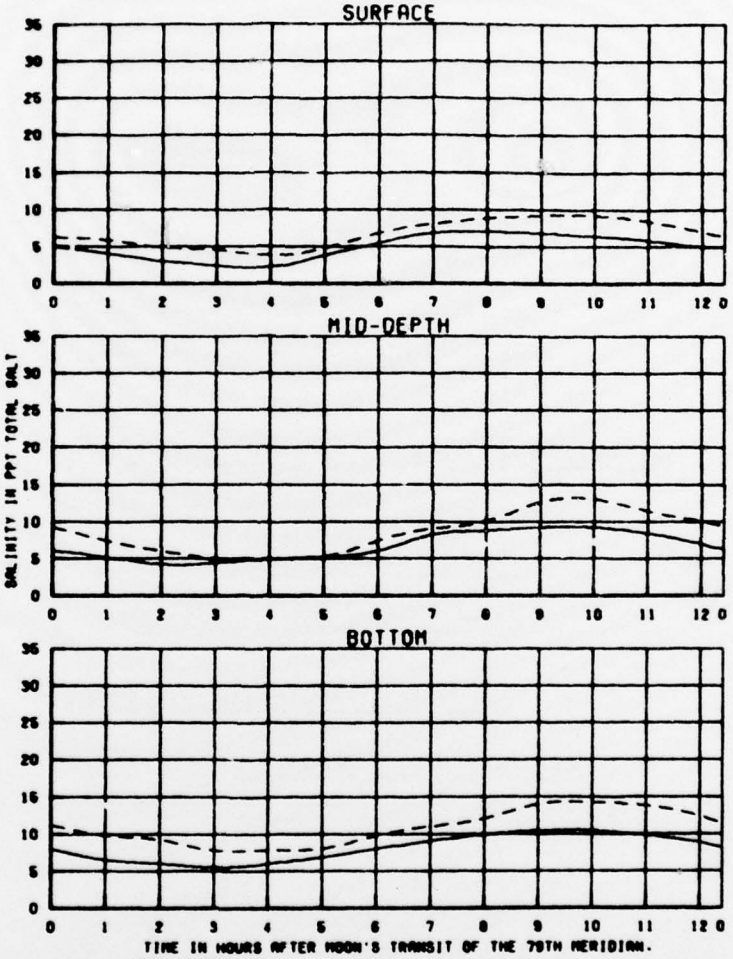

SURFACE
MID-DEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
0 5 10 15 20 25 30 35
0 1 2 3 4 5 6 7 8 9 10 11 12 0
TIME IN HOURS AFTER MOON'S TRANSIT OF THE 75TH MERIDIAN.
TEST CONDITIONS
TIDAL RANGE AT YORKTOWN DOCK 2.99 FT
OCEAN SALINITY (TOTAL SALTS) 31.5 PPT
MACLENNAN RIVER INFLOW 184 CFS
PEE DEE RIVER INFLOW 4823 CFS
BLACK RIVER INFLOW 162 CFS
LEGEND
PROTOTYPE
MODEL
GEORGETOWN HARBOR MODEL
LOW-INFLOW
VERIFICATION OF
SALINITY
OBSERVATIONS
STATION
1

PLATE 90



TEST CONDITIONS

TIDAL RANGE AT YANKIES DOCK	2.90 FT
OCEAN SALINITY (TOTAL SALTS)	31.5 PPT
WACCAMAW RIVER INFLOW	184 CFS
PEE DEE RIVER INFLOW	4823 CFS
BLACK R. VER INFLOW	162 CFS

LEGEND
PROTOTYPE ———
MODEL — — —

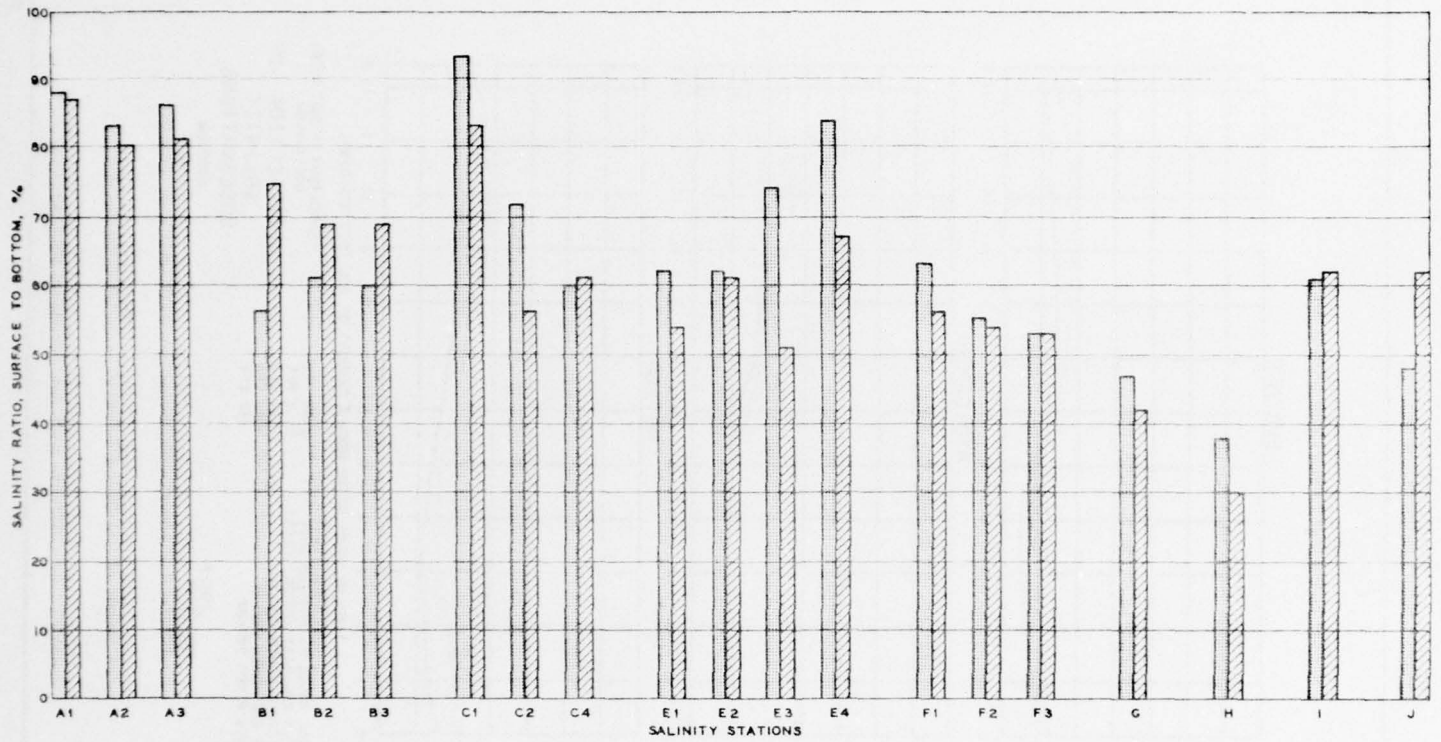
GEORGETOWN HARBOR MODEL
LOW-INFLOW

VERIFICATION OF SALINITY OBSERVATIONS

STATION
J

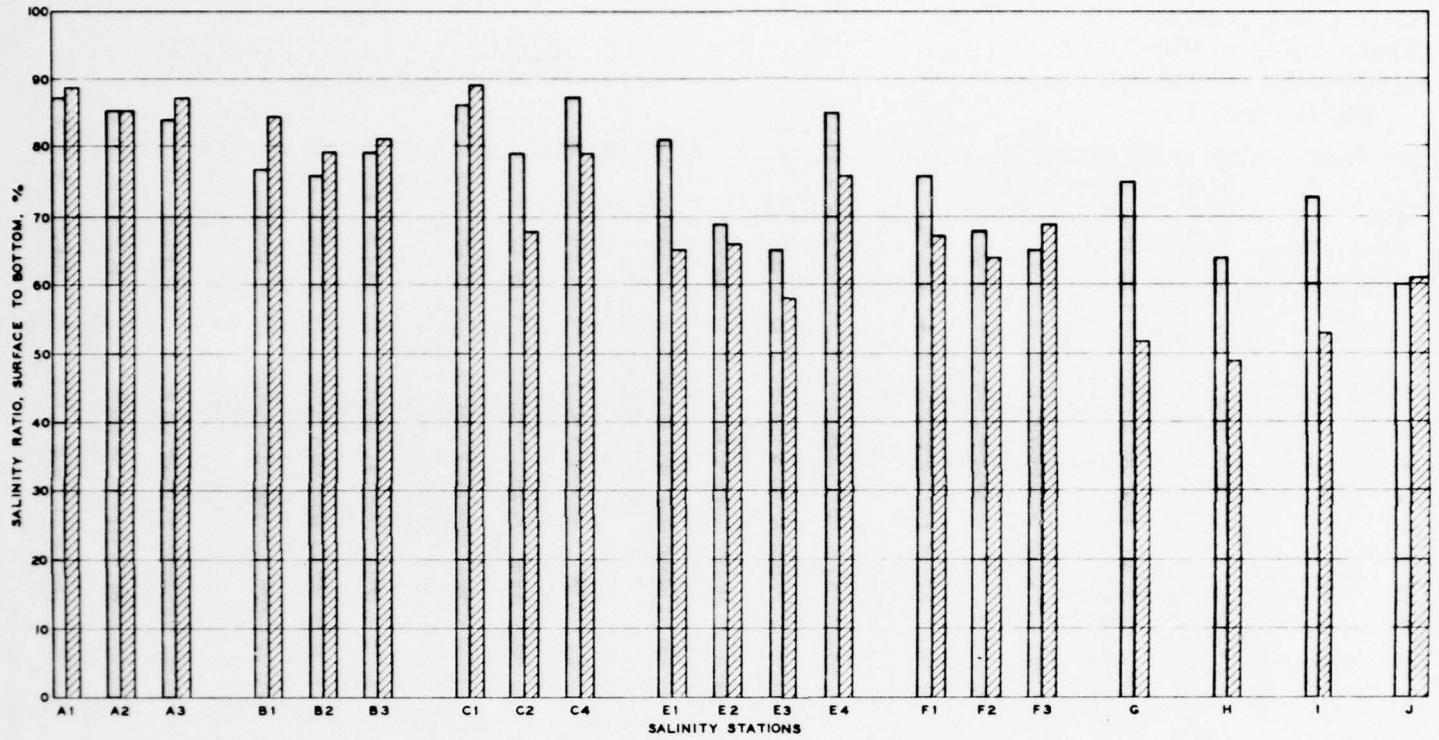
PLATE 91

PLATE 92



VERIFICATION OF VERTICAL MIXING OF SALT AND FRESH WATER

MEAN FLOW

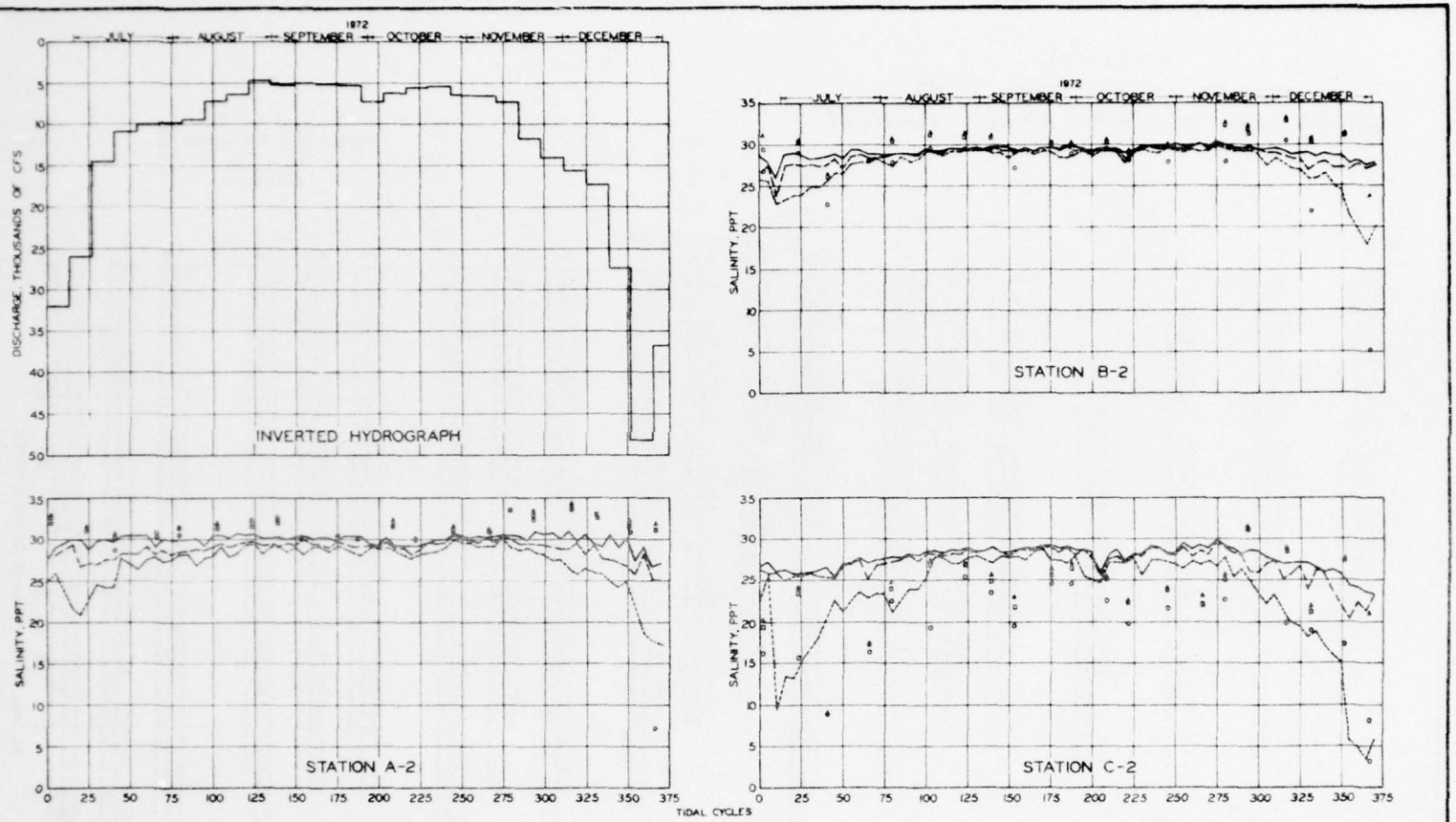


VERIFICATION OF VERTICAL MIXING OF SALT AND FRESH WATER

LOW FLOW

PLATE 93

PLATE 94



MODEL TEST DATA

TIDE	MEAN (3.85' RANGE)
FRESHWATER DISCHARGE	JUL-DEC 1972 NATURAL HYDROGRAPH
SOURCE SALINITY	32.5 PPT

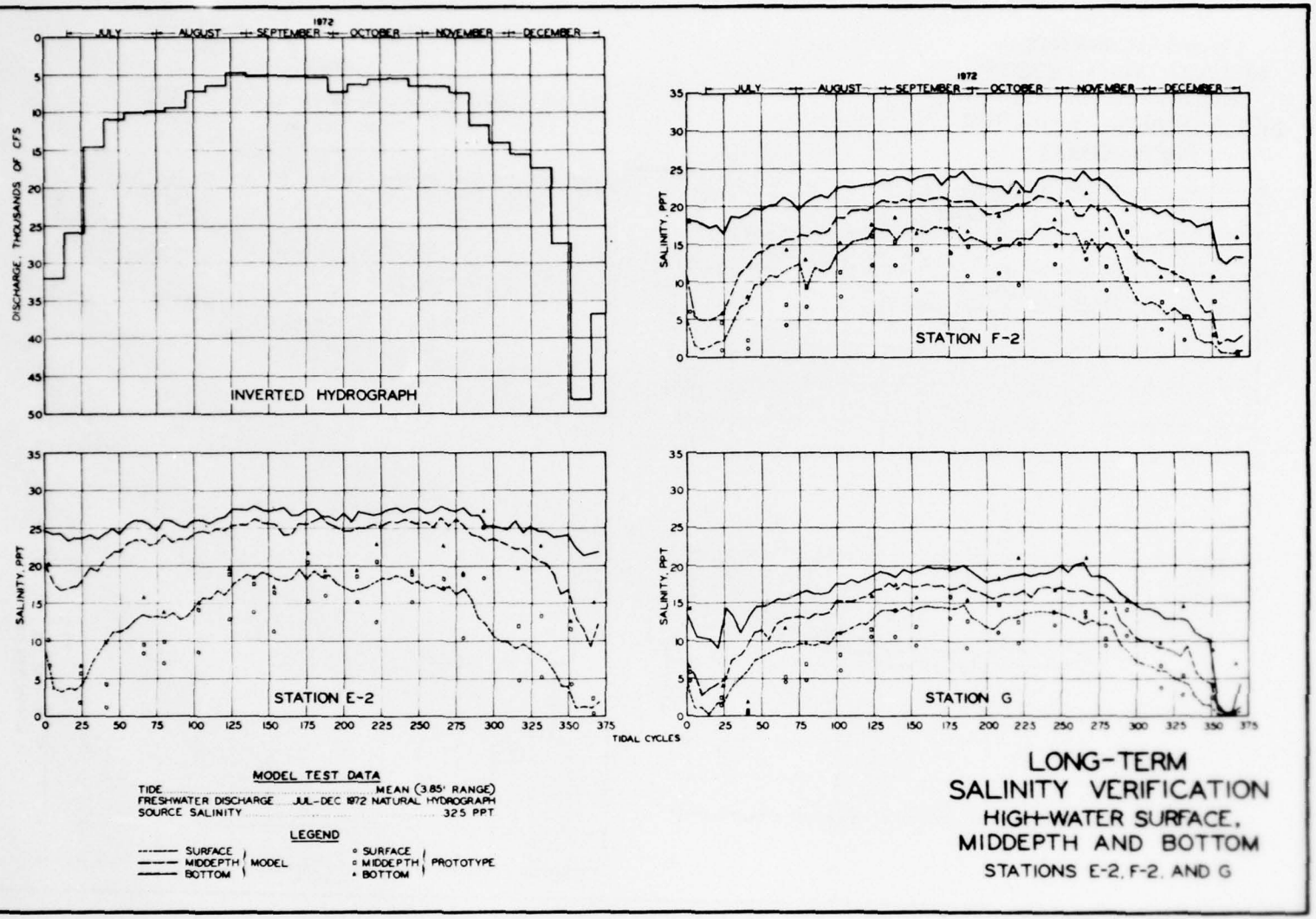
LEGEND

SURFACE	MODEL	SURFACE	PROTOTYPE
MIDDEPTH		MIDDEPTH	
BOTTOM		BOTTOM	

LONG-TERM SALINITY VERIFICATION

HIGH-WATER SURFACE AND BOTTOM DEPTHS

STATIONS A-2, B-2, AND C-2



MODEL TEST DATA

TIDE	MEAN (3.85' RANGE)
FRESHWATER DISCHARGE	JUL-DEC 1972 NATURAL HYDROGRAPH
SOURCE SALINITY	32.5 PPT

LEGEND

SURFACE	MODEL	SURFACE	PROTOTYPE
MIDDEPTH		MIDDEPTH	
BOTTOM		BOTTOM	

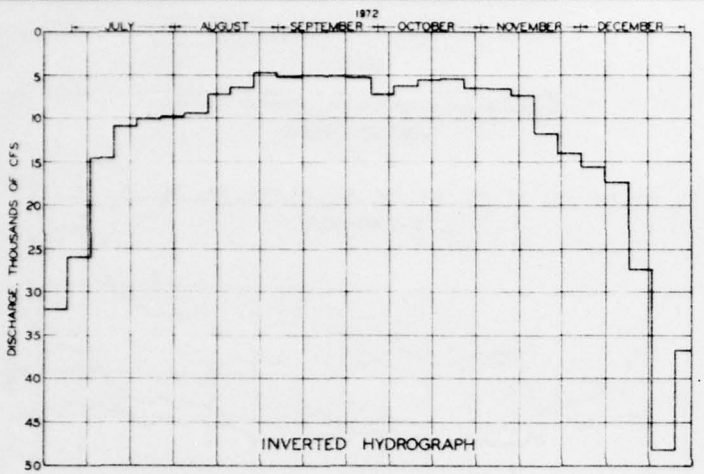
LONG-TERM SALINITY VERIFICATION

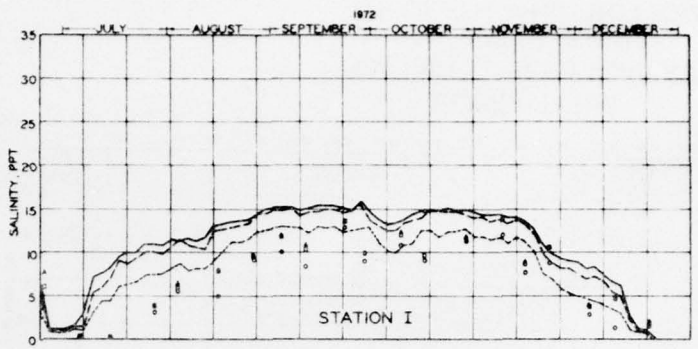
HIGH-WATER SURFACE, MIDDEPTH AND BOTTOM

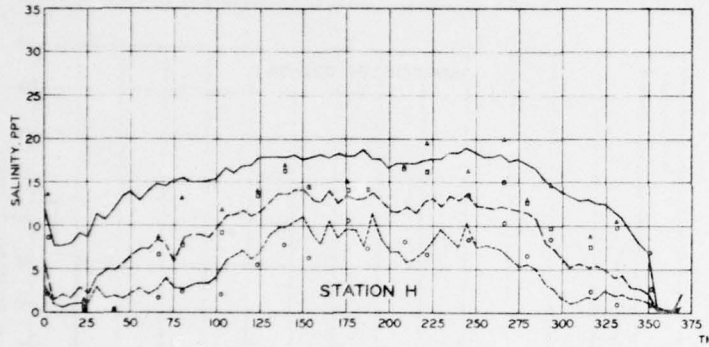
STATIONS E-2, F-2, AND G

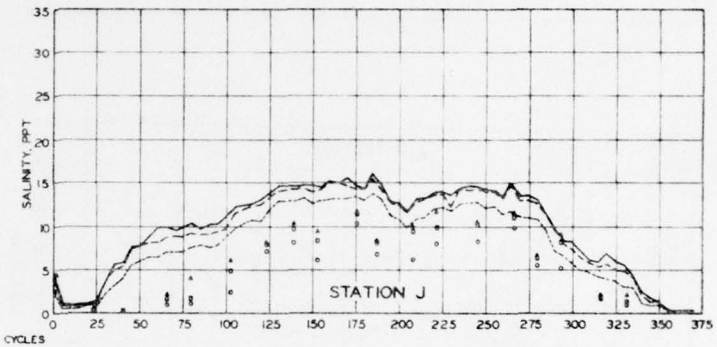
PLATE 95

PLATE 96









MODEL TEST DATA

TIDE ..... MEAN (3.85' RANGE)
FRESHWATER DISCHARGE ..... JUL.-DEC 1972 NATURAL HYDROGRAPH
SOURCE SALINITY ..... 32.5 PPT

LEGEND

MODEL: ----- SURFACE; —— MIDDEPTH; —— BOTTOM
PROTOTYPE: ○ SURFACE; ○ MIDDEPTH; ▲ BOTTOM

LONG-TERM SALINITY VERIFICATION

HIGH-WATER SURFACE, MIDDEPTH AND BOTTOM

STATIONS H, I, AND J

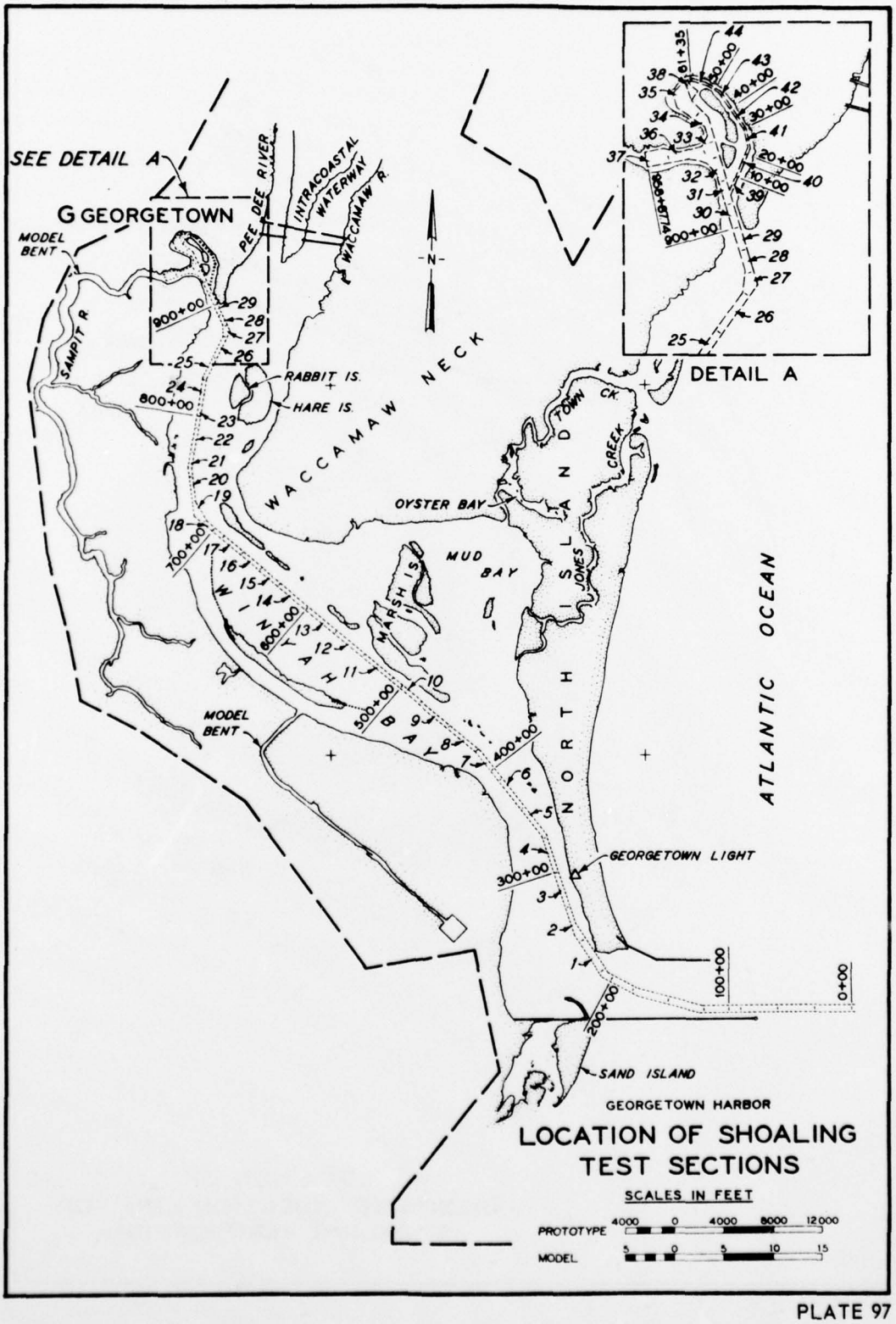
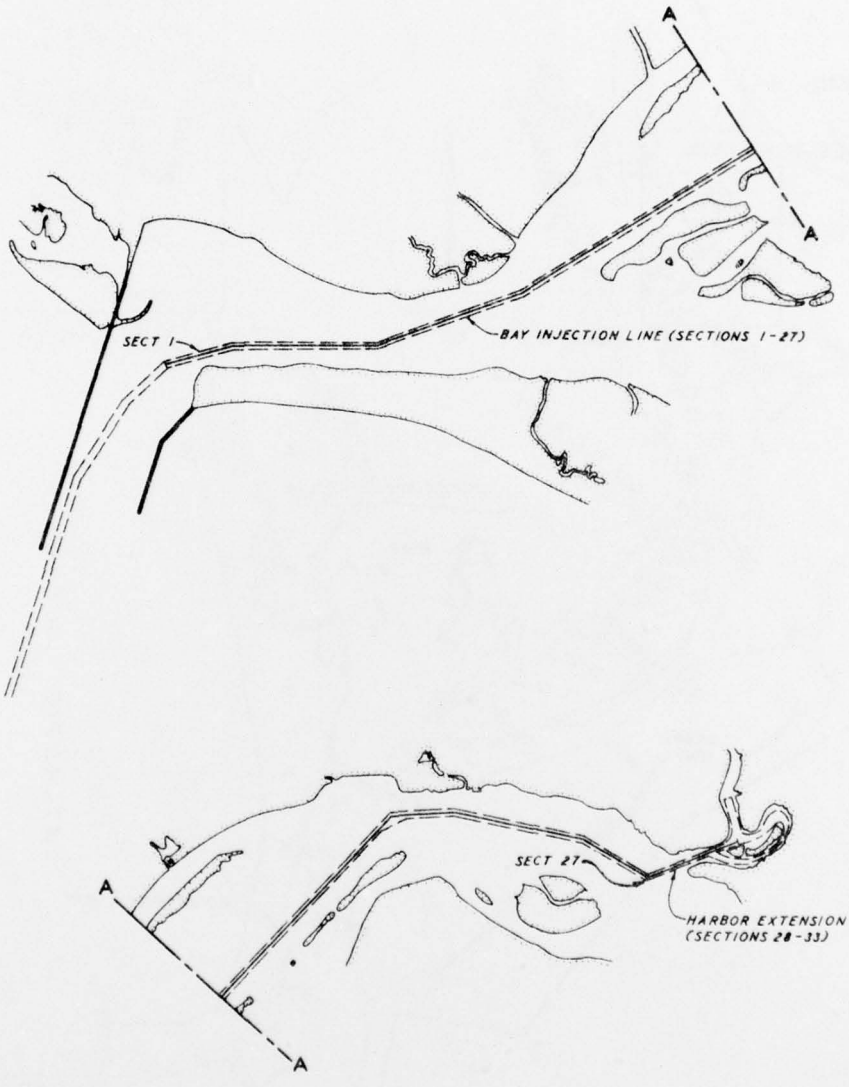

SEE DETAIL A
G GEORGETOWN
MODEL BENT
PEE DEE RIVER
INTRACOASTAL WATERWAY
WACCAMAW R.
SAMPIT R
RABBIT IS.
HARE IS.
WACCAMAW NECK
OYSTER BAY
MUD BAY
MARSH IS.
JONES CK.
CREEK
NORTH ISLAND
ATLANTIC OCEAN
GEORGETOWN LIGHT
SAND ISLAND
DETAIL A
900+00
800+00
700+00
600+00
500+00
400+00
300+00
200+00
100+00
0+00
GEORGETOWN HARBOR
LOCATION OF SHOALING TEST SECTIONS
SCALES IN FEET
PROTOTYPE 4000 0 4000 8000 12000
MODEL 5 0 5 10 15

PLATE 97



LOCATION OF
GILSONITE INJECTION LINE FOR
SHOALING VERIFICATION

PLATE 98

In accordance with letter from DAEN-RDC, DAEN-ASI dated 22 July 1977, Subject: Facsimile Catalog Cards for Laboratory Technical Publications, a facsimile catalog card in Library of Congress MARC format is reproduced below.

Trawle, Michael J
Georgetown Harbor, South Carolina; Report 1: Hydraulic, salinity, and shoaling verification / by Michael J. Trawle. Vicksburg, Miss. : U. S. Waterways Experiment Station; Springfield, Va. : available from National Technical Information Service, 1978.
27, [146] p., 98 leaves of plates : ill. ; 27 cm. (Miscellaneous paper - U. S. Army Engineer Waterways Experiment Station ; H-78-6, Report 1)
Prepared for U. S. Army Engineer District, Charleston, Charleston, South Carolina.

1. Current velocity. 2. Georgetown Harbor. 3. Hydraulic models. 4. Navigation channels. 5. Salinity. 6. Shoaling. 7. Tides. I. United States. Army. Corps of Engineers. Charleston District. II. Series: United States. Waterways Experiment Station, Vicksburg, Miss. Miscellaneous paper ; H-78-6, Report 1.
TA7.W34m no.H-78-6 Report 1